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THE ART OF STRAIGHT THINKING

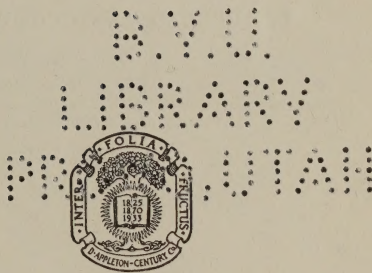
A PRIMER OF SCIENTIFIC METHOD
FOR SOCIAL INQUIRY

BY

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THEIR NATURE AND NURTURE"



D. APPLETON-CENTURY COMPANY

INCORPORATED

NEW YORK

LONDON

1934

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HATU OVON

PRINTED IN THE UNITED STATES OF AMERICA

TO
ALVAN A. TENNEY
SCHOLAR TEACHER FRIEND

PREFACE

NEARLY ten years ago I first undertook to teach a course on methods of social investigation. Little helpful material being available for student use, I began to organize data for my class, with the idea that out of my rough syllabus a book on social research might presently be developed.

Three years of experience with my course revealed an important and disconcerting fact, however, and led me to modify my immediate objective. I realized that because they know little of scientific method as applied to the social sciences, most undergraduates are not prepared to use to good advantage even the most excellent helps to research. I therefore resolved to prepare a handbook on scientific thinking in the social sciences, which should serve as an introduction to a later study on methods of social investigation. I accordingly divided my assembled material into two parts. One part was reserved for the deferred work on research. The other part was the raw material on which I at once set to work, and from which I have developed the present volume.

This study has evolved very slowly, in accordance with my experience in using it with successive classes of students. It has now reached a stage, however, in which I can single-handed do little to further its development. I therefore offer it for both the use and the criticism of all those who wish to help men to obtain unbiased facts, to think logically about those facts, and to act rightly in the light of scientific judgments.

The illustrative material in this volume deals with fallacies of many kinds. To some readers it may seem that I

have stressed the fallacies of conservatism and have minimized equally common and grave fallacies of radicalism. This is true. I believe, however, that this unequal emphasis in selection of illustrations is not the result of prejudice on my part. It is rather the result of a judgment that most American undergraduates are habitual conservatives, who need to be warned especially of the fallacies of reaction, but who are fully aware of the mistakes of radicalism. Had I been writing for a predominantly liberal group I should have laid far more stress upon the fallacies of radicalism than I have done in this volume.

I am deeply indebted to many persons for aid in the preparation of this study. First of all, I owe a debt of gratitude to my father, who long ago laid the foundation of my interest in scientific method by his patient insistence upon reason in thought and speech. I am also under obligation to seven friends of my student days, who gave me valuable lessons in open-mindedness and in effective thinking. I would here express my deep appreciation of those lessons from Winifred Ware Bodfish, Franklin Henry Giddings, Frank Hamilton Hankins, John Francis O'Connor, James Harvey Robinson, Alvan A. Tenney, and Arthur L. Weatherly.

Next, for stimulation and for valuable ideas, I am indebted to many authors, but especially to Herbert Spencer and his *Study of Sociology*.

I am gratefully under obligation to the friends and associates who have read the manuscript and who have given valuable criticisms. Special mention must be made of M. C. Elmer, of the University of Pittsburgh; Ross L. Finney, of the University of Minnesota; Blanche E. Atkins and Leslie D. Zeleny, of St. Cloud Teachers College; and John H. Dietrich, of the First Unitarian Society of Minneapolis, who in its early stages read the entire manuscript; George P. Conger and Homer H. Dubs, of the University of Minne-

sota; and Charner M. Perry, of the University of Texas, who generously scrutinized the chapters on logic; Lawrence E. Cole, of Oberlin College, who gave invaluable aid with the chapters on prejudice; Frederick E. Croxton, of Columbia University, who examined the chapter on statistics and suggested and prepared scatter plots for the publisher; and Stuart A. Rice, of the University of Pennsylvania, and Daniel S. Robinson, of Miami University, who made many important and constructively helpful suggestions when the manuscript was in its later stages. To these kindly critics I owe much of whatever is good in this volume, though they are in no wise responsible for its defects.

For generous and freely given permission to quote I am indebted to a number of authors and publishers, as indicated in the footnotes scattered through the body of the work.

Finally, acknowledgment must be made of aid given by my wife in preparation of the manuscript, correction of proof, and preparation of the index.

E. L. C.

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**THE ART OF
STRAIGHT THINKING**

Tho man a thinking being is defined,
Few use the grand prerogative of mind;
How few think justly, of the thinking few!
How many never think—who think they do!

JANE TAYLOR

The hopes of the world must rest on the habit of
forming opinions on evidence rather than on passion.

BERTRAND RUSSELL

THE ART OF STRAIGHT THINKING

CHAPTER I

THE ART OF STRAIGHT THINKING

FLOORED ¹

The sovereign citizen ought to be a very busy person these days [August, 1915]. He has been told on all sides that he alone can remedy the inconceivable horror into which the world has fallen. He has been told to beware of diplomats, journalists and international lawyers, of labor agitators, social reformers and politicians, of experts, theorists and professors. But before any one of us as a citizen can exercise his sovereignty he has to read the newspapers. He has to find out what is the matter, and what to be sovereign about. For the business of reading newspapers there is breakfast time plus the gracious delays which all suburban railroads and congested street cars supply in order that the newspapers shall be read before the sordid task of making a living can begin.

Whoever reads the newspapers with care comes away with indigestion. The war in Europe, the war in Mexico, the war in Haiti, strikes in scores of places, the Shipping Bill, German-Americans, Theodore Roosevelt, George Perkins, national defense, missing bank clerk—was there a woman in the case?—Warden Osborne, the British note, the German notes, Becker, Thaw, the Eastland, will Greece cede Kavala to Bulgaria, where is Kavala, why are the English holding so short a line, what will the Germans do next, are we going to have war with Germany: on each of these subjects we have to have a true and honest opinion, and we have to form it in a precious hurry.

It is, of course, a sheer impossibility, and we all shirk it. But the avalanche of news during the last year has taken its toll.

¹ Editorial, *New Republic*, Vol. IV, pp. 34-35.

We know vaguely that never before was there such desperate need for lucid and imaginative thought, for ideas with edge and force. We have literally to change the whole historic policy of our nation and enter a sphere of action infinitely complicated and persistently dangerous.

In most of us there is an undercurrent of uncertainty which we never knew before, an apprehension which stirs us vaguely and darkly. The magnitude of the task seems to have stunned our thinking, to have lowered the vital tone of our minds. We run to brooding over military events and neglect the intellectual labor of adjusting ourselves to the events before us. One example will suffice. We have seen the price England is paying for her industrial mistakes; we have seen the folly of her class-ruled industry compounded on the battlefields of Europe; we have witnessed the agony of a nation spiritually unprepared for modern coöperation. And, having seen it, we have done no single thing to remedy the identical diseases in America. We drift as if nothing were to be learned.

The bitter fact is that our education is too poor, our leisure too short, our work too crowded, for any serious grappling with the questions which every day's newspaper sets before us. The meat is too strong for our unexercised digestions. Our boast that public opinion governs the world sounds like vacant mockery. Public opinion is created out of the opinions of newspaper readers, and those readers have not the teeth to make even a dent upon the tough issues of our time.

We teeter on the edge of war with Germany, a war which would change our whole future. And almost nowhere in the press, almost nowhere in common talk, is there any indication of thought about the nature, the possibilities, the strategy, or the diplomacy of such a war. We forget the problem whenever five days pass without an attack on a decently sized ship. The lethargy of the American mind is frightening. A new constitution for nine million people is being created at Albany; it is a lucky chance if the proceedings are mentioned in the newspapers. Our capacity for attention seems to be exhausted; we are reservoirs of fact, full to overflowing; we can take on no more.

Explanations are possible enough. We could not be prepared for any such calamity as that which disturbs the world. True. But behind that unpreparedness lies an archaic and stingy educational system, a grinding and wasteful system of industry, a

neglect of those arts and sciences which steady the mind and recreate it from day to day. Our jerry-built cities, our soot, the cracked paint of our houses, the dusty carelessness of city life, its flaring second-hand amusements, are the setting in which people lose the vitality to deal with those problems which they dare not fail to solve. The helplessness of our discussion is the natural result of years of unventilated, unirrigated haste. It is the price of our distrust of thought, of theory, of realism, of intellectual integrity. How can we deal with the labor problem now when we have always left it to the cranks? How can we deal with the international problem when we have lived in isolated indifference? Doesn't it follow that these problems will either not be solved at all, or that they will be solved over our heads and without our consent? Surely it is tragic to talk of the voice of democracy when the democracy is uninformed and prostrate before its tasks.

The argument and the conclusion of this challenging editorial are as true to-day as they were in 1915. It is almost universally agreed by careful students of social problems that throughout the world there is crying need of scientific thinking regarding human relations.

Men agree only regarding the existence of this need, however. They disagree markedly regarding the sort of folk who should do the thinking which will discover the way to social salvation. Some aver that this thinking should be done by those who have been proved to possess an orthodox view of society and of social problems. Such is apparently the view of the Bolsheviki and the Fascisti. Others declare that, save for the feeble-minded, all men can be so thoroughly trained to think scientifically and may be so well instructed regarding social matters that they will be enabled to form wise judgments on all sorts of public policy. This is the current view of many liberal educators. In the third place, many publicists assert that there is no occasion for the people to try to think for themselves regarding social problems. It will be to their advantage to leave such

important matters to those persons who are known as experts, specialists, or technicians. This seems to be the prevailing view of American business men. Finally, it is maintained that there may be worked out a division of labor in thinking between the public, the student of social problems and the expert, which will give the state the services of the expert and at the same time protect it from his narrowness. This is the view championed by Professor Ross L. Finney in his *Sociological Philosophy of Education*.

So far as the present study is concerned, it makes no difference what plan for social thinking and for social leadership you may favor. In any case, some persons will have to make public policy, and those persons will have to think clearly before there can be any notable improvement in man's estate. In any case, therefore, we need something which we have not heretofore possessed, namely, a carefully formulated statement of the method of scientific thinking, prepared with special reference to the pitfalls which beset the student of social problems, and to the means by which these pitfalls can be avoided.

This book is a preliminary attempt to formulate such a statement. It is a popular account of the methods of scientific thinking about current social problems. In it useful aids to effective thinking are presented, while important causes of crooked thinking are analyzed also and their cures and preventives are examined.

Since prejudice is an important obstacle to scientific thinking, its removal or reduction is basic to our study. Our next two chapters, therefore, deal with this subject. The causes of prejudice are examined in Chapter II, while means of curing and preventing prejudices are considered in Chapter III.

A second group of chapters centers around problems of

logic. Chapter IV deals with deduction. It shows what inferences can be drawn from data which are in hand. Chapter V considers problems of observation. Some essentials of definition, classification, and statistics are analyzed in Chapter VI. Chapter VII sets forth the methods of induction, that is, the general principles according to which data must be assembled and organized in order to make scientific generalizations. Chapter VIII, the last of this group, discusses analogy and the comparative method.

The next six chapters deal with methods of obtaining and interpreting data. Chapter IX opens the subject with an examination of problems of assumptions and hypotheses. Chapter X continues with an analysis of circumstantial evidence and proof of hypotheses. Chapter XI deals with oral testimony and Chapter XII with the value and limitations of written sources. The section is concluded by Chapter XIII, in which are discussed the subjects of dishonest propaganda and means of avoiding errors from this source.

The volume ends with a short Chapter XIV, on dealing with oppositions through a coöperative technique for solving social problems.

CHAPTER II

CAUSES OF PREJUDICE

THE PERSECUTION OF ROGER BACON¹

From St. Augustine to St. Thomas Aquinas, from Aquinas to Luther, and from Luther to Wesley, theologians of both branches of the Church, with hardly an exception, enforced the belief in magic and witchcraft, and, as far as they had power, carried out the injunction, "Thou shalt not suffer a witch to live."

Of course, the atmosphere created by this persecution of magicians was deadly to any open beginnings of experimental science. The conscience of the time, acting in obedience to the highest authorities of the Church, and, as was supposed, in defense of religion, now brought out a missile which it hurled against scientific investigators with deadly effect. The mediæval battle-fields of thought were strewn with various forms of it. This missile was the charge of unlawful compact with Satan, and it was most effective. We find it used against every great investigator of nature in those times and for ages after. It came to be the accepted idea that, as soon as a man conceived a wish to study the works of God, his first step must be a league with the devil.

The first great thinker who, in spite of some stumbling into theological pitfalls, persevered in a truly scientific path, was Roger Bacon. More than three centuries before Francis Bacon advocated the experimental method, Roger Bacon practiced it, and the results as now revealed are wonderful. He wrought with power in many sciences, and his knowledge was sound and exact. By him, more than by any other man of the Middle Ages, was the world brought into the more fruitful paths of scientific thought—the paths which have led to the most precious inventions; and among these are clocks, lenses and burning specula,

¹ Andrew D. White, *History of the Warfare of Science with Theology in Christendom* (D. Appleton and Company, New York, 1896), Vol. I, pp. 385-390, abridged.

which were given by him to the world, directly or indirectly. In his writings are found formulæ for extracting phosphorus, manganese and bismuth. It is even claimed, with much appearance of justice, that he investigated the power of steam, and he seems to have very nearly reached some of the principal doctrines of modern chemistry. But it should be borne in mind that his *method* of investigation was even greater than its *results*. In an age when theological subtilizing was alone thought to give the title of scholar, he insisted on *real* reasoning and the aid of natural science by mathematics; in an age when experimenting was sure to cost a man his reputation, and was likely to cost him his life, he insisted on experimenting, and braved all its risks. Few greater men have lived.

On this man came the brunt of the battle. The most conscientious men of his time thought it their duty to fight him, and they fought him steadily and bitterly. His sin was not disbelief in Christianity, not want of fidelity to the Church, not even dissent from the main lines of orthodoxy; on the contrary, he showed in all his writings a desire to strengthen Christianity, to build up the Church, and to develop orthodoxy. He was attacked and condemned mainly because he did not believe that philosophy had become complete, and that nothing more was to be learned; he was condemned, as his opponents expressly declared, "on account of certain suspicious novelties."

But this was not the worst: another theological idea was arrayed against him—the idea of Satanic intervention in science; hence he was attacked with that goodly missile which with the epithets "infidel" and "atheist" has decided the fate of so many battles—the charge of magic and compact with Satan.

The most powerful protectors availed him little. His friend, Guy of Foulques, having in 1265 been made Pope under the name of Clement IV, shielded him for a time; but the fury of the enemy was too strong, and when he made ready to perform a few experiments before a small audience, we are told that all Oxford was in an uproar. It was believed that Satan was about to be let loose. Everywhere priests, monks, fellows, and students rushed about, their garments streaming in the wind, and everywhere rose the cry, "Down with the magician!" and this cry, "Down with the magician!" resounded from cell to cell and from hall to hall.

The attempt has been made by sundry champions of the Church to show that some of Bacon's utterances against ecclesi-

astical and other corruptions in his time were the main cause of the severity which the Church authorities exercised against him. This helps the Church but little, even if it be well based; but it is not well based. That some of his utterances of this sort made him enemies is doubtless true, but the charges on which St. Bonaventura silenced him, and Jerome of Ascoli imprisoned him, and successive popes kept him in prison for fourteen years, were "dangerous novelties" and suspected sorcery.

Sad is it to think what this great man might have given to the world had ecclesiasticism allowed the gift. He held the key of treasures which would have freed mankind from ages of error and misery. With his discoveries as a basis, with his method as a guide, what might not the world have gained! Nor was the wrong done to that age alone; it was done to this age also. The nineteenth century was robbed at the same time with the thirteenth. But for that interference with science the nineteenth century would be enjoying discoveries which will not be reached before the twentieth century, and even later. Thousands of precious lives shall be lost, tens of thousands shall suffer discomfort, privation, sickness, poverty, ignorance, for lack of discoveries and methods which, but for this mistaken dealing with Roger Bacon and his compeers, would now be blessing the earth.

In two recent years sixty thousand children died in England and in Wales of scarlet fever; probably quite as many died in the United States. Had Bacon not been hindered, we should have had in our hands, by this time, the means to save two-thirds of these victims; and the same is true of typhoid, typhus, cholera, and that great class of diseases of whose physical causes science is just beginning to get an inkling. Put together all the efforts of all the atheists who have ever lived, and they have not done so much harm to Christianity and the world as has been done by the narrow-minded, conscientious men who persecuted Roger Bacon, and closed the path which he gave his life to open.

The case of Roger Bacon is striking but not unique. It well illustrates the illogical origin of bias. It shows the absurd ways in which bias often manifests itself. It reveals the vicious results which often follow in the train of prepossessions. Bias is indeed among the most basic and pernicious obstacles to scientific thinking. On this account

we shall give a prominent place in our study to bias and its offspring, prejudice.

Prejudice, says the Standard Dictionary, is "(1) a judgment or opinion formed without due examination of the facts or reasons that are essential to a just and impartial determination; (2) a mental decision based on other grounds than reason and justice; (3) a premature opinion favorable or unfavorable to some person or thing; also (4) a prepossession or motive influencing to such judgment or opinion; (5) mental bent or leaning; (6) bias."

This definition recognizes that an unwarranted opinion such as we are considering may be viewed from either of two angles, just as we may think of Isaac as the son of Abraham or as the father of Jacob. First, it may be considered as the result of faulty reasoning. Second, it may be considered as being itself the cause of other unwarranted judgments. Thus, let us say, an unwarranted view regarding the Chinese may be regarded as the result of unwarranted views regarding all groups which are not Nordic, and also as the cause of an unwarranted view regarding the Chinese individual, Po Kwan Long, with whom we have some contact. In common speech the terms bias and prejudice are used interchangeably to describe such views, whether considered as cause or effect. We shall therefore here use these terms in this same manner, employing the context to indicate, if necessary, whether we are thinking of the particular prepossession as a cause or as an effect.

It is generally true that bias and prejudice are socially harmful, but it is well to recognize that this is not always the case. In children, for example, certain biases may be highly useful. It is no doubt good for the child to be biased against going with strangers whom he may meet on the street, or to refrain from using public drinking cups. Since he is not old enough to understand fully why he should not

do these things or why he should take his parents' word regarding them, he needs to be so trained that he will surely not do them. Here, then, we are dealing with useful biases which we may properly inculcate in the young, though of course it is highly desirable that presently even these biases shall be replaced by sound judgments.

It is also well to note that even in the case of judicially-minded and well-informed adults much prejudgment is necessary. Experience reveals that often any reasonable action is better than no action, witness the famous case of the judicial but starving donkey, stalled precisely half way between two stacks of hay. Although, therefore, I know that my evidence is incomplete and always will be, I employ Dr. A. instead of Dr. B., I vote Ticket C instead of Ticket D, I choose occupation E instead of F, simply as the best alternative possible in the light of my limited information.

In this study we are not concerned with the irreducible minimum of such prejudgments. Our interest is in those numerous, common, and harmful prejudices which may with reasonable care be overcome or avoided.

We shall now examine the causes of prejudice in some detail. In order to do this it is necessary to understand a few simple psychological terms and principles. By *stimulus* the psychologist means any influence, from within or without the body, which causes it to act. Thus a slap in the face, the sound of a bell, and the hunger contractions of the stomach are all stimuli. By *response* he means any action of the organism which is assailed by a stimulus. This response may be obvious, as in the moving of the hand, or it may be slight and difficult to observe, as in a change of respiration or blood pressure. Research shows that, so far as we can tell, every stimulus brings forth a response, and that every response is the result of stimulation. The

psychologist uses the symbol S for stimulus or the stimulating situation, and R for response.

Frequently the psychologist finds that he knows either a stimulus or a response, but does not know the other factor in the situation. This he wishes to determine. When he knows the stimulus his problem may be indicated graphically in the following manner:

S.....R
Known To be determined

When he knows the response only this graph indicates his problem:

S.....R

To be determined	Known
------------------	-------

Either problem is solved when

S.....R
Has been determined Has been determined

The psychologist tells us further that stimuli and responses are of two kinds, unlearned and learned. These are also known as unconditioned and conditioned or substitute stimuli and responses. There are thousands of unlearned stimuli which call out a response in humans. Such are cutting and burning of the skin, electric shock, tickling, and the like. They call forth unlearned responses of withdrawal of the body, crying, screaming, and so on.

But humans soon learn something about stimuli and responses, and react to situations in new ways. This learning process may well be described in the words of John B. Watson, a leader in the field of behavioristic psychology. He wrote: ²

² John B. Watson, *Behaviorism* (W. W. Norton and Company, New York; Kegan Paul, Trench, Trubner & Co., Ltd., London, 1925), p. 21.

Some stimuli when first applied seem to exert no marked effect and certainly not the effect they come later to exert. Let us illustrate this by going back to our formula. Suppose for example we take an already established (unlearned) reaction with both stimulus and response known, such as:

S.....R
Electric shock Withdrawal of hand

Now the mere visual stimulus of a patch of red light will not cause the withdrawal of the hand. The patch of red light may produce no marked reaction whatsoever (what reaction does appear will depend upon previous conditioning). But if I show the red light and then immediately or shortly thereafter stimulate my subject's hand with the electric current and repeat this routine often enough, the red light will cause the immediate withdrawal of the hand. The red light now becomes a substitute stimulus—it will call out the R whenever it stimulates the subject in that setting. Something has happened to bring about this change. This change, as we have pointed out, is called conditioning—the reaction remains the same but we have increased the number of stimuli that will call it out.

It is possible to substitute or condition responses, as well as stimuli. On this topic Watson wrote:

Yesterday his puppy called out from a two-year-old child fondling—pet words, play and laughter:

S.....R
Sight of dog Manipulation, laughter, etc.

To-day the dog calls out:

S.....R
Sight of dog Screaming, withdrawal of body

Something happened. Late yesterday the dog bit him too hard in play—broke the skin and caused bleeding. We know that

S.....R
Cutting, burning of skin Withdrawal of body, etc., screaming, etc.

In other words while the visual stimulus *dog* has remained substantially the same, the reaction belonging to another unconditioned stimulus (cutting, pricking skin) has made its appearance.³

Now we are ready to get a little closer to our problem. We wish to discover the kind of stimulus which calls forth responses of the type which we call prejudices. We wish to know whether prejudices are unlearned or learned responses, and, if they are learned, how they become learned.

There is a popular belief that some forms of prejudice are unlearned or innate. Thus it is commonly held that there is a natural antipathy between men of different races. According to this theory the white child is born with a dislike for the little Negro, Chinese, and Indian child, and from birth the dark-skinned youngster reciprocates this sentiment. This theory is commonly invoked to explain and often to justify the overt hostility constantly shown by many whites toward the world of color, and it is argued that it is difficult, if not impossible, to eradicate such antipathy.

In order to get a true answer to this question, "Are social biases innate?" it is necessary to consult the psychologist. His answer is clear and unequivocal. The child, he tells us, is born without any such emotions. The infant possesses, in fact, only three types of emotional reaction which all psychologists agree are unlearned. Fear results from sudden, loud noises and loss of support. Rage results from hampering of bodily movements. "Love responses," so-

³ *Ibid.*, p. 23. As a matter of fact whenever a response becomes conditioned, some stimulus is likewise conditioned, and the converse is also true. So we said in the foregoing example that the stimulus *sight of dog*, which yesterday called forth the response *laughter*, is now conditioned by the response *screaming*. It is equally true that the response *screaming*, which formerly was caused by the unconditioned stimulus *slap* or *pinch*, is now conditioned by the stimulus *sight of dog*.

called, result from stroking, gentle rocking, patting, and the like. All other emotional responses are learned.

The process of learning emotional responses has been demonstrated in the laboratory. Watson experimented with an eleven-month-old boy, Albert R., whom he described as "a wonderfully 'good' baby," saying, "In all the months we worked with him we never saw him cry until after our experiments were made."

In his experiments Watson made use of a loud sound, which is an unconditioned or fundamental stimulus which quickly and easily calls out the fear reaction. He reported his experience in these words: ⁴

Our first experiment with Albert had for its object the conditioning of a fear response to a white rat. We first showed by repeated tests that nothing but loud sounds and removal of support would bring fear response in this child. Everything coming within twelve inches of him was reached for and manipulated. His reaction, however, to a loud sound was characteristic of what occurs in most children. A steel bar about one inch in diameter and three feet long, when struck with a carpenter's hammer produced the most marked kind of reaction.

Quotations from Watson's laboratory notes show just how the conditioned emotional response was established: ⁵

Eleven months, 3 days old. (1) White rat which he had played with for weeks was suddenly taken from the basket (the usual routine) and presented to Albert. He began to reach for rat with left hand. Just as his hand touched the animal the bar was struck immediately behind his head. The infant jumped violently and fell forward, burying his face in the mattress. He did not cry, however.

(2) Just as his right hand touched the rat the bar was again struck. Again the infant jumped violently, fell forward and began to whimper.

⁴ *Ibid.*, p. 126.

⁵ *Ibid.*

Further experimentation was deferred for a week.⁶

Eleven months, ten days old. (1) Rat presented suddenly without sound. There was steady fixation but no tendency at first to reach for it. The rat was then placed nearer, whereupon tentative reaching movements began with the right hand. When the rat nosed the infant's left hand the hand was immediately withdrawn. He started to reach for the head of the animal but withdrew it suddenly before contact. It is thus seen that the two joint stimulations given last week were not without effect. . . .

The child was next subjected to the combined stimulation of rat and sound. On each of six occasions he reacted negatively and vigorously, as on the previous week. Then the climax of the experiment was reached. Albert was subjected to the stimulus of the rat alone.⁷

The instant the rat was shown the baby began to cry. Almost instantly he turned sharply to the left, fell over, raised himself on all fours, and began to crawl away so rapidly that he was caught with difficulty before he reached the edge of the mattress.

Several days later Albert was again tested, with results described by Watson in the following words: ⁸

Before the above experiment on the rat was made, Albert had been playing for weeks with rabbits, pigeons, fur muffs, the hair of the attendants, and false faces. What effect will conditioning him upon the rat have upon his response to these animals and other objects when next he sees them? To test this we made no further experiments upon him for five days. That is, during this five day period he was not allowed to see any of the above objects. At the end of the 6th day we again tested him first with the rat to see if the conditioned fear response had been carried over.

⁶ *Ibid.*

⁷ *Ibid.*, p. 127.

⁸ *Ibid.*, p. 127.

It was then found that Albert still reacted in a violent negative way to the rat. He played readily with his blocks, however, showing that there had been no general transfer to the room, table, blocks, or other surrounding objects. But when there were presented to him in order a rabbit, a dog, and a sealskin coat, he cried and withdrew. He also reacted negatively to cotton wool, human hair, and a false face. Plainly in all of these cases there was spread or transfer of response.

In this case of little Albert we have two important phenomena illustrated. First is the conditioning of a stimulus by an unlearned stimulus-response situation. Striking the bar and calling out the fear response to noise caused the simultaneously presented stimulus *rat* to call forth the new response, *fear of rat*.

S.....	R
Striking bar	Fear of noise
Rat	Fear of rat

Second, we have the conditioning of a stimulus which is itself conditioned. Presenting the rat and calling forth the response, *fear of rat*, caused the stimulus, *rabbit*, later to call forth the new response, *fear of rabbit*.

Life is, of course, no such simple thing as a series of interactions—one stimulus, one response, one stimulus, one response—one after the other. It is, on the contrary, a situation in flux, in which the individual is simultaneously subjected to many ever-changing stimuli, and makes ever-changing responses. Consideration of an illustrative case will make this plain.

Suppose that on a given day, after school, six-year-old John is playing marbles with David on the school playground. John is in good health. At the moment he is not

hungry or thirsty or muscularly fatigued, though his nervous system is somewhat tired after two hours of boyish attention to school work. John likes quiet play and fair play. He resents keenly roughness, rudeness, and infringement of his rights. He is habitually patient and polite with those who do not try to impose on him. He is not inclined to bear a grudge. He is fond of animals. Thus we might continue our description of him indefinitely, but we must let these few lines do as a rough sketch of the boy.

Ten-year-old Antonio now comes out of the schoolhouse on the run. His manner is one of eager assurance, but not of hostility. John sees Antonio. There come into his mind impressions which are decidedly unpleasant, for Antonio has often bullied John. Antonio shouts, loudly but not unkindly, "Say, fellows! Come on over to my house and I'll show you my new dog!"

John responds according to his physical condition, his habits, and the stimuli which impinge upon him. His response would differ in some detail if he were tired. It would be different in some other way if he were ill, or hungry, or in any way different in physical condition or habits or experience with Antonio, or if Antonio spoke softly, offered him candy, or in any other manner acted differently. In short, his response is determined by many stimuli, including all that we have enumerated and a host of others. These stimuli partly support and partly offset each other. John's response is the resultant of the combination of all of these forces. This resultant is determined, so far as we can tell, precisely as the course of the bread thrown upon the park pond is determined by the onslaught of a host of hungry fishes.

We are now ready to consider the ways in which specific prejudices are acquired.

We have already seen that Albert acquired prejudices, first against the rat and then against the rabbit, by the method of transfer. This is precisely the mode by which all men acquire a large proportion of their prejudices. This process we shall now examine in detail. In particular we shall consider the laws of learning, in accordance with whose interplay prejudices are acquired. These laws we shall make clear by developing further our illustrative case.

As we have already remarked, John does not like Antonio because Antonio bullies him. John did not have to learn to dislike being pinched. He did not have to learn to dislike Antonio. He learned to do this, obviously, by having his dislike transferred from the noxious stimulus, the pinch, to an object conspicuously associated with the stimulus, Antonio. We say "conspicuously" because if John had been in a crowd when Antonio mistreated him, no boy would have stood out as the offender and John would have been unable to tell which one caused his pain. His emotion could not then have been transferred from the pinch to the offender. In that case, then, John would probably have tended to dislike all the boys in the group, and also to dislike being in a crowd. Now we can understand our general, underlying principle, the LAW OF TRANSFER: *An emotional attitude which is felt toward a phenomenon tends to be transferred to any other phenomenon which is conspicuously associated with the first phenomenon.*

The extent and permanency of transfer depend upon the interplay of five factors. One is the uniformity or lack of uniformity of experience. If, to go on with our illustration, Antonio uniformly acts the bully, the habit of dislike will tend to become established in John, but if Antonio is frequently conspicuously friendly, John will develop the habit of hate but imperfectly, if indeed he develops it at all.

Thus the LAW OF UNIFORMITY tells us: *When a phenomenon uniformly calls forth an emotion, that emotion tends to be transferred to associated phenomena, but when a phenomenon at different times calls forth different emotions, less transfer or no transfer tends to take place.*

In our illustrative case, John does not stop with disliking Antonio. His dislike becomes transferred still further. Antonio has many characteristics. He is short, dark, Italian, and Roman Catholic. John's dislike of Antonio-the-individual is transferred to Antonio-the-dark and Antonio-the-Italian. Because he has many short friends, John does not come to dislike Antonio-the-short, and since he himself is a Catholic he does not come to dislike Antonio-the-Catholic. Now it is only a little step to transfer the dislike to other persons possessing those of Antonio's characteristics which impress John and which he dislikes. Possibly, then, he comes to dislike many dark boys and very likely all Italian boys. He may go even further and come to dislike all dark persons and all Italians. Now we are ready for our second principle, the LAW OF SIMILARITY: *An emotional attitude which is felt toward one phenomenon tends to be transferred to any other phenomenon which conspicuously resembles the first.*

The speed and extent of transfer will be affected by the intensity of Antonio's behavior. If the older boy is only mildly offensive, John's emotional response will be mild. But if Antonio is positively brutal, John's initial response and his transferred dislike will be violent. So the LAW OF INTENSITY tells us: *The extent of transfer of emotional attitudes tends to vary directly with the intensity of the emotion.*

Again, account must be taken of the frequency of Antonio's bullying. Frequent repetitions will fix John's attitudes more quickly than will infrequent. This fact is stated

in the LAW OF FREQUENCY. *The more frequently an emotional attitude is called forth, the more quickly will it become a habit.*

Finally, the learning of attitudes is facilitated by what the psychologist calls *drive*, by which is meant an emotionally toned urge in a particular direction. The strength of a drive is determined by the interplay of the several factors of uniformity, similarity, intensity, and frequency which we have just been considering. The influence of the drive is stated in the LAW OF READINESS: *When an individual has a drive in a particular direction, to act in that direction becomes easier, not to act becomes harder, and the emotional tone of the response becomes more intense.*

In our example John has acquired a drive to dislike Italians. Then to learn to dislike new Italian acquaintances has become easier for him, and not to learn to dislike them has become harder. On the other hand, if John had previously acquired a drive, not to dislike Italians, but to eat frequently in Italian restaurants, then to learn to dislike Italians would have become more difficult, in so far as the two attitudes resulted in mental conflict.

As we have already stated, behavior takes place in accordance with the interplay of several forces. Learning is a form of behavior. These Laws of Learning which we have set forth are simply statements of tendencies, all of which may be checked by other tendencies. The net movement in the direction of learning is therefore the resultant of many forces, some of which may largely or even entirely neutralize each other.

The case of John and Antonio shows not only how unlearned emotions are transferred from one object to another. It shows also how learned emotions are transferred when habits are conditioned. This latter mode of acquiring prejudice is so important that it deserves fuller illustra-

tion. Take for example the prejudice of Bill Jones against the Japanese. Bill is in the habit of earning his living as a carpenter. This habit is sometimes interrupted. Then the stimulus of this interference brings forth the learned responses of annoyance, dislike, hate, and the like, directed against the interfering object. Now there may be interference by a new competitor, Henry White. If Henry is of the same stock, culture, labor organization, religion, and place of origin as is Bill, there can hardly be any transfer of emotion from Henry to his group, unless it be to the members of his family. But if the new competitor is Aiji Yuasa, a Japanese, who is outwardly very different from Bill, it is almost certain that the antipathy directed against Yuasa as a competitor will be transferred to Yuasa-the-Japanese, to many other Japanese, and possibly to all other members of his race.

By this mode of transfer we can generally account for prejudices which are directed against groups, some members of which threaten or have threatened cherished possessions or standards. Thus some men dislike the Irish as a class because some Irishmen are their economic competitors. Others dislike the Irish as a whole because some Irish have cheated them. Still others hate the Irish because some of the group are corrupt politicians.

Prejudice is also often created in another way. It may be the incidental end-product of a deliberate process of imitation. Both children and adults, as we know, often imitate those who have prestige in their eyes. The prime motive of this imitation seems to be to obtain and become able to exhibit new knowledge and behavior which will be approved by one's peers or superiors. The naughty school-boy, for instance, has often become mischievous in order to be able to boast of it to his fellows. In these ways, then, beliefs are frequently adopted and responses aped.

From this examination of the Laws of Learning we turn to an entirely different topic. We shall now consider a number of the more influential social circumstances which lead to conditioning of stimuli, and thereby cause prejudiced responses. You will note that these types of circumstance are usually influential because one has an emotionally toned drive in the direction suggested by these circumstances, and one which therefore operates to facilitate learning.

✓ In his earliest years, in the first place, the child has no other standards than those of his parents, brothers and sisters, nurse, and other members of his household. They are to him great and powerful persons. He becomes habituated to following them in many ways. Naturally, then, his mind becomes set to follow their proposals and to accept their ideas. It is not strange, therefore, that children generally adopt as their own many of the views, including the prejudices, of their elders.

The influence of other children, particularly those who are older, soon competes strongly with that of parents. Frequently the child comes to feel that his parents are old fogies, at least in some matters. For reasons which we shall note presently, he then values the opinions of his elders less than those of his peers.

Children bias each other in many ways. Their choice of friendships is important. If Master Waldo Emerson Frothingham boycotts Harold Barakian because he is an Armenian, Master Roger Wolcott Winthrop will do the same. He finds it delightful to discover that he belongs to a superior social class, with inferiors upon whom it is appropriate to look with scorn.

Formal precepts from the lips of older children are often important. "You aren't supposed to be polite to Dagos," is frequently a strongly biasing dictum when pronounced

by a playmate who has prestige, even though father and mother do say that one must be polite to every one.

Children's sports are significant. If Master Fifth-grader takes pleasure in mocking the ragman and the garbage collector, Master Third-grader imitates gleefully. If the older boy shouts, "The last one in to the garage is a dirty greaser!" the younger one concludes that a "greaser" is a person greatly to be despised. Has not his playmate, a person of authority, said on other occasions, "The last one into the garage is a rotten egg?"

Children's rimes are influential. One can hardly chant repeatedly

"Chinkie, Chinkie, Chinieman,
Wash he face in the fryie pan!"

without developing a prejudice. A similar influence is exerted by such a lyric gem as

"Kill a cat! Kill a rat!
Kill the crazy Democrat!"

Of course the child does not necessarily believe that the Chinese really washes in the frying pan, and he knows very well that Democrats are not insane. He does receive assurance from the couplet, however, that in the eyes of his peers the persons mentioned are sufficiently queer to warrant mocking them more or less publicly, and the pleasure which he derives from this mocking tends to set him in this habit and this view.

What is true in this case is often equally true, also, when the child has many another idea presented to him in an interesting manner and from a favored source. The youngster may not accept the new idea as literally true, though experience shows that there is almost no limit to the absurdities which children can be taught to believe with

implicit faith. But even though the idea is not accepted literally, it is frequently taken as an instructive symbol of some other belief, such as Chinese or Democratic inferiority, which may become very firmly held by reason of the impressiveness of the symbol.

Why does the child follow now his parent and now his playmate? This is not difficult to understand, in the light of our Laws of Learning. The boy adopts his father's attitude toward the liquor problem, for example, because he has a drive to learn from his father, and because he derives satisfaction from feeling that he has taken the correct stand in a righteous cause. He adopts his playmate's attitude toward Armenians because he has a drive to have a good time, and he gets more satisfaction from playing with his peers according to their standards than from following the standards of his parents and thereby setting himself apart from his fellows. Sometimes one drive wins out and sometimes another. All depends upon the relative strength of the two drives and upon environing conditions.

✓ Of course few of the prejudices which children impart to each other originate among youngsters. For the most part they should bear the label "Made by Grown-Ups." Some of the sources of these prejudices must now be noted.

Modes of celebrating holidays are significant. Memorial Day is a good example. On the preceding day there are special exercises in the schools. Songs are sung and verses are recited which extol the military virtues. A veteran tells of some of his experiences or a member of the school board lauds the courage and self-sacrifice of the soldier boys. On the day itself there is a great parade, where natty uniforms and brass bands send thrills shooting up and down the spine. Then there are speeches and the decoration of the graves. All in all, it is a rather exciting and very pleasant occasion. And this very pleasantness, be it noted, joined

with the intensity, repetition, and uniformity of the experience, is what makes the celebration a factor in prejudicing the little boy in favor of the military life.

Story books are influential. The child naturally tends to appropriate many of the ideas and ideals of his books, because they are associated with pleasurable experiences. A generation ago even the best of children's books tended to give a false view of life. Oliver Optic's *Haste and Waste*, though now perhaps sixty years old, is a fair specimen of a very reputable type of book; the kind given "to Willie Jordan for regular attendance in the Methodist Sabbath School." In this story the young pilot of Lake Champlain was the fortunate recipient of a sunken steamboat which he raised and navigated to success, in spite of the active hostility of a drunken father and brother. Other popular and accepted authors filled their plots with runaway heroes, hobo camps, smugglers, narrowly averted train wrecks, lucky strikes in the oil field, private Pullman cars, and the like, when they did not have their hero win renown *At Agincourt* or *With Lee in Virginia*. To-day the heroes of boys' books are halfbacks, torpedo boat commanders, and aviators, but the success theme still predominates.

Newsdealers still display plenty of lurid, red-blooded stories of two-fisted he-men, such weeklies and titles as the following offering of a week taken at random: *Fame and Fortune Weekly*, "Winning the Dollars, or the Young Wonder of Wall Street"; *Wild West Weekly*, "Young Wild West Saving a Hundred Thousand, or the Shot That Stopped the Train"; *Pluck and Luck*, "Jack Mosby, the Guerilla King, or Riding and Raiding in the Rebellion"; *The Liberty Boys of '76*, "The Liberty Boys Puzzled, or the Tories' Clever Scheme"; *Work and Win*, "Fred Fearnott at the Plate, or the Game That Had to Be Won"; *Happy Days*, "A Floating Fortune, or Two Boys' Search for a Drifting Treasure";

Secret Service, "The Bradys and the Hidden Man, or the Haunted House on the Hill."

The influence of such stories is of course not uniform. Much depends on the drive of the reader. If he is strongly set against the ideas which are presented, he is not likely to have his attitude greatly changed. But results will be different if he has no particular attitude on the subjects presented, especially if he has a drive, as most boys have, in favor of thrills. Then such stories, read with pleasure, have considerable effect. They influence the lad to believe that certain types of conduct lead to popular favor and to satisfaction in life, that the truest success in life is athletic, dare-devil, military or financial, and that when necessary strong arm methods are appropriate means of attaining this success.

Before he is very old the child becomes interested in the newspapers. Before he can read, the comic section tends to give him such prejudiced notions as that men are oglers, that women are spendthrifts, that marriage is a humdrum of dullards or a continuous fight with rolling-pins, and, worst of all, that these facts are extremely funny. It is of course true that few children take these so-called "funnies" at their face value. But because at a time when they lack ripeness of judgment they find these pictures interesting and amusing, children are, in varying degrees, affected by them.

Cartoons tend to imbue the child with such prejudiced ideas as that Russians are dirty and unshaven persons who carry bombs in their pockets, and that Prohibitionists are long-faced gloom-spreaders in high hats and frock coats. The former idea will probably take, because the chances are that the child mind has been set to believe evil of the Russians. The latter will not take if, as is likely, the youngster has acquaintances who are "drys." In every case in which there is no personal knowledge to offset it, how-

ever, the cartoon has a chance to get in its work of mis-education.

The picture page features such subjects as the latest thing in hot-weather pajamas for women, a film actress who has just returned from Europe, a society leader wearing the dress in which she was presented to royalty, the new tiger mascot of the Princeton football team, and a "close-up" of the battleship *Wyoming*. Day after day the child observes such pictures as these with satisfaction, and from this practice with satisfaction comes a prejudice in favor of this kind of illustration, rather than a liking for views dealing with more significant but less thrilling matters.

When the boy is a little older he reads the news. Then he quickly notes that crime, scandal, military events, and such trivialities as the activities of the president's dog are given places of prominence, and that baseball is the only subject regularly honored with the top of the front page of a special edition. All these matters are presented in an entertaining, if not thrilling manner. Again we have him practicing with satisfaction. To this insidious influence of the press must be attributed a considerable part of the current popular aversion to serious thought and discussion.

What is said of the newspapers in this respect must of course be said ten times as emphatically of the so-called "tabloid" or picture papers, which owe their mushroomlike growth primarily to their appeal to the trivial, the sensational, and the vulgar.

The magazines which children read are chiefly those that they find at home. The prevailing burden of their contents, as one learns for himself who examines the periodicals with the largest circulations, is that virtue almost always wins, that force is a proper and necessary means to success, and that success consists chiefly in amassing wealth.

✓ Magazines of so-called humor play no inconsiderable part

in spreading prejudice. However innocent may be an author's intent, he tends to create a bias, particularly in the mind of the child, when he cracks a joke imputing undesirable traits to an individual who stands as representative of a group in the mind of the reader.

ABRAHAM: Did you have any insurance?

ISAAC: Did I have any insurance? Did I have a store? Did I have a fire? Did you go crazy in your head?

Such a joke as the foregoing may be innocent enough in itself, but when others of the same type are read and enjoyed, week after week and year after year, one tends, in the absence of contradictory influences, to accept as axiomatic the prejudiced belief that Jews are habitual incendiaries.

✓ For purposes of this study the radio must be classed with newspapers and popular magazines. It has been hailed as an important means of education, but as yet it has been used chiefly for advertising and entertainment. Practically all broadcasting stations give much time to recreational programs of the lighter sort, and very little to serious matters. Household hints, dancing lessons, magazine readings, bedtime stories, programs of jazz, and reports of athletic contests, often given play by play, constitute the major part of the offering. Good music and educational talks are given relatively little place. It is all rather agreeable, however, at least to those who have been educated to appreciate nothing better. No wonder, then, that many of the intellectually unemployed form the habit of following the programs regularly. In this way, therefore, the radio plays its part in biasing in favor of the trivial.

It might be anticipated that the school would offset such insidious influences as have been enumerated. Sometimes it does in part. A beloved teacher may have as great in-

fluence as does a parent, and she may do much to weed prejudices from young minds. Too frequently, however, the teacher possesses the prejudices current in her community, and actually biases the minds put in her care. She herself, being the approved finished product of an educational system which on the whole discouraged independence of thought, is likely to be a willing conformist. There are, it is true, numerous and probably increasing exceptions, but as yet most teachers seem to feel that unquestioning conformity is a great virtue. They act as though one of their chief duties were to train children to accept on faith the beliefs held by the "best" people of the community, beliefs which we have seen to be largely prejudices.

The way in which the child's independence is destroyed and his mind filled with conventional beliefs is a familiar one. As soon as he enters school the process of regimentation is begun. The teacher commonly presents her views as facts to be accepted without question. She is usually a pleasant person. She tells him new and interesting things, the knowledge of which gives him a sense of power and satisfaction. It is therefore easy for her to dominate him. She tells him just what he should believe about John Hancock, Jefferson Davis, and the causes of the World War. No wonder, then, that most school children have a strong bias in favor of the beliefs which prevail in their community, be they what they may, and an equally strong bias against all persons who venture to question those views. There are, indeed, exceptional individuals who may entertain other ideas, but when one learns that agreeing with the teacher leads to satisfaction, while disagreement leads to dissatisfaction, even the independent thinker is likely to develop a prejudice. This prejudice will be different from that of his fellows, however. It will be simply in favor of outward conformity.

✓ If these facts are true of the public school, much more are they true of the Sunday School. There, as every one knows, the teacher usually tells the child categorically what is true and what he must believe. She looks upon the youth who presumes to question as being in a perilous state and strives, not to make him an independent thinker, but to save him for the faith of the fathers. Of course she is not always successful in her efforts, for other and stronger influences often impinge upon her pupil and make him skeptical, but at least her efforts are all in the direction indicated.

It is happily true that there are many individual teachers in both day and Sunday schools who favor open and free discussion in their classes, but their effectiveness is seriously limited by conditions largely beyond their control. In the first place, she is a brave teacher who encourages open-mindedness when she knows that she is in consequence likely to be charged with Bolshevism, atheism, or what not, and is in danger of being disciplined or even dismissed by an irate superintendent or school board. This is no imaginary danger, as many good teachers have learned to their cost. Heresy hunting, sometimes the result of legislation, has been rife ever since the War. As long as narrow-minded politicians like to remark significantly, "The hand that signs the pay check is the hand that rules the schools," most teachers will not encourage independence of thought that leads to views very different from those of their educational superiors.⁹

In the second place, teachers are often handicapped by the educational tools at their disposal. Textbooks have a great influence. The geography which portrays the Caucasian as an English business man instead of as a Russian

⁹ Cf. *Nation*, Vol. CXXVI, p. 601.

peasant, but presents the Malay as the wild man of Borneo instead of as a Filipino planter, tends to create a prejudice, for it causes the child to judge one group by its more advanced and the other by its more backward members. The history that gives more space to Pocahontas than to William Penn, more to Paul Revere than to Edgar Allan Poe and more to the events of the Civil War than to its causes, creates an impression that history consists of personal anecdotes, particularly regarding men associated with military events. General O'Ryan threw revealing light on the influence of this kind of teaching when he said: "I think . . . that I can trace my own military career to Barnes's history, with one particularly inspiring picture of Phil Sheridan waving his hat and yelling: 'Turn, boys, turn! We are going back!'"¹⁰

Textbooks of this bias-creating sort have happily been becoming rarer of late, though the demand of certain politicians and patriotic societies that more attention be given to leaders of the American Revolution is likely to result in their recrudescence.

Patriotic, church, and Sunday School songs create prejudices. The pleasure of singing them with friends strengthens satisfaction in association. When later one comes to examine the basis of his belief and practice, he finds that he possesses habits which make it extremely difficult for him to determine his political or religious behavior on an intellectual basis. Pleasure in group singing has been transferred to pleasure in standing by the group.

Popular songs deserve more than the passing reference which can be given them. As long as they agreeably emphasize the nonsensical, as in "Ja Da" and "Yes, We Have No Bananas"; the trivial, as in "I'm Forever Blowing

¹⁰ Quoted in Frederick J. Libby, *War on War* (National Council for Reduction of Armaments, Washington, 1923), p. 52.

Bubbles"; and the suggestive, as in "Will You Tell Your Wife in the Morning Who [sic] You Were with To-night?" they will create biases in childish minds in favor of superficiality and laxity in morals.

Finally, a few words must be said on the subject of motion pictures. Their prevailing themes seem to be centered around war, big business, and, of course, love, frequently of the "cave man" variety, presented in settings of Wall Street, the Grand Canyon, a California estate, and a ranch house in Idaho. Pleasing thrillers dealing with such themes cannot fail to tend to give the child a biased view of life. It is hardly necessary to argue this point, for few intelligent persons question the need of raising standards of photoplays. Specific mention must be made, however, of those films which directly and immediately inculcate prejudice. Such a picture was "The Birth of a Nation," which portrayed the ignorant Negro as a rapist, the educated one as a demander of intermarriage, and the Ku Klux Klan of Reconstruction days as a great force for righteousness. It roused antagonism between the races and increased friction wherever it was shown.

Every one knows that several of the sources which have been mentioned, such as the press and the screen, are frequently used for the deliberate purpose of creating false impressions. This phase of the subject, which it is well to bear in mind whenever one thinks of causes of prejudice, is reserved for extended consideration in Chapter XIII.

We have considered chiefly the ways in which children acquire bias. The process is the same in adult life, though of course adults are not quite as susceptible to infection. We have stressed the juvenile period because this is the time when most prejudices are acquired. Most thoughtful persons do not question this fact. If, however, one is told that his dislike for the Mexican, for example, is a prejudice

acquired as a child, he is almost certain to respond in one of two ways. He may contend that racial antagonisms are innate, that he was born disliking the red man. He is more likely, however, to assert that his antipathy is a sound judgment, and to present a variety of reasons in support of his contention. This process of self-justification is called "rationalizing." Professor Robinson characterized it with his usual felicity when he said:

I remember years ago attending a public dinner to which the Governor of the state was bidden. The chairman explained that His Excellency could not be present for certain "good" reasons; what the "real" reasons were the presiding officer said he would leave us to conjecture. This distinction between "good" and "real" reasons is one of the most clarifying and essential in the whole realm of thought. We can readily give what seems to us "good" reasons for being a Catholic or a Mason, a Republican or a Democrat, an adherent or an opponent of the League of Nations. But the "real" reasons are usually on quite a different plane. Of course the importance of this distinction is popularly, if somewhat obscurely, recognized. The Baptist missionary is ready enough to see that the Buddhist is not such because his doctrines would bear careful inspection, but because he happened to be born in a Buddhist family in Tokio. But it would be treason to his faith to acknowledge that his own partiality for certain doctrines is due to the fact that his mother was a member of the First Baptist church of Oak Ridge.¹¹

We have finished our consideration of the external social forces which make for prejudice and are now ready to examine the more important biases which reside within. The list described in the following pages is not exhaustive. The several biases, moreover, both overlap and operate simultaneously, so that it is often impossible to determine which of the causes is the occasion of a particular error.

¹¹ James Harvey Robinson, *The Mind in the Making* (Harper and Brothers, New York, 1921), pp. 41-42.

The discussion will suffice, nevertheless, to warn against the most dangerous general sources of specific prejudice which are to be found in the individual.

A prime cause of specific prejudices is the bias and habit of self-interest, or what one believes to be self-interest. This bias the child very early discovers to make for his satisfaction, and in consequence he cherishes it. A broad self-interest is no doubt natural, for it is a factor for survival. Such self-interest is therefore to be classed as a sound prejudice. There is, however, a narrow self-interest which is to be rated as a harmful prejudice. Such economic self-interest was an important factor in impelling the government of the United States to recognize the republic of Panama, and in making it reluctant to forgive European war debts for the sake of a better peace settlement. Economic self-interest also causes prejudice in individuals. The local merchant cannot fairly appraise the mail-order business. The wool-grower can not pass without bias upon the worth of a protective tariff. In the rarer cases when self-interest is not economic it is, nevertheless, an important cause of prejudice. It is practically impossible, for example, for the Protestant clergyman to appraise fairly the work of the Jesuits, or for the gridiron hero to pass upon the merits of intercollegiate athletics.

This narrow self-interest appears to rise through circumstances which may be designated as ignorance of the natural laws which govern social relations. It is also partly due to lack of foresight. It persists because the world is too complex for men to appreciate the full results of their errors of conduct. They die before the effects of their own mistakes come home to them.

A second personal cause of specific prejudices is the bias and habit of conservatism, undue favor of the old. Some persons are almost always opposed to change. They have

adjusted themselves to the world as it is, or they believe that they have done so, and they do not wish to be disturbed. Such persons are almost always opposed to change. The old and familiar satisfies them, the new and unfamiliar irritates them. The "old-time religion" is good enough for them because it was the faith of the fathers. The constitution of the United States, having endured for a century and a half, is to them above criticism. They cling tenaciously to the ancient grudge against Britain because their great-grandfathers cherished it. They vote the "good old" Republican or Democratic ticket because their ancestors did, and they can not abide proposals for a new party. They want the "good old" classical education for their children. They yearn for the "good old" days before women bobbed their hair, shortened their skirts, and sallied forth from their "proper place," the home, into the world of affairs.

✓ A third personal cause of specific prejudices is the bias and habit of radicalism, undue favor of the new. Many persons are always eager for a change. This may be because they are unadjusted or believe that they are unadjusted to the world. Under the circumstances they are discontented. They therefore long for new conditions, under which they feel that they may obtain the adjustment and content which they desire. Accordingly they uncritically embrace whatever is the talk of the day, only to cast it aside, in spite of any merit which it may possess, as soon as it ceases to be a novelty. In the last few years, to cite a single illustration, the search for health has led such persons, as a class, to run the gamut of vegetarianism, Christian Science, osteopathy, chiropractic, Fletcherism, calory-counting, yeast cakes, Walter Camp's daily dozen, Couéism, and sun baths.

✓ In the fourth place, there is the biased habit which in-

clines men in favor of their own ideas and practices, and against individuals and groups whose beliefs and ways are different, however harmless those persons and their conduct may be. This is natural, for self-confidence or self-esteem, within limits, makes for effective living. Men affected by this bias of self-esteem often resent personal differences unduly. Thus one man has no use for Senator X because he wears a silk hat, while another feels that Mr. Y is not a fit member of the House of Commons because he goes to its sessions wearing a cap. Incidental differences associated with religion may irritate such a person. He becomes prejudiced against Roman Catholic clergy because they wear clerical garb, against Protestant ministers because they marry, or against Orthodox Jewish rabbis because their food must be kosher. Again, it is very common for such persons to entertain prejudices against men of another race or nation, on account of differences which have no real significance. Many of us Americans, for example, dislike the English because their accent is different from our own, hate the Germans because their language sounds harsh, or despise the Orientals because their countenances are not Occidental.

A fifth cause of specific prejudices is found in persons who dislike being different from their fellows. They have the bias and habit of conventionality. They are biased in favor of anything which is the mode, because they find it easy and pleasant to go with the crowd, and they therefore tend to accept uncritically any prevailing idea. They are conservative or radical according to the spirit of the hour. Such persons are freshmen who seek to become full-fledged college men by imitating the upperclassmen in whatever they do, country boys who try in every way to be like city dwellers, immigrants who strive at all costs to be like natives.

These five causes of specific prejudices—self-interest, conservatism, radicalism, self-esteem and conventionality—are particularly influential in the presence of uncritical habits of thought, ignorance, or difference in experience. An examination of these is now in order.

In the absence of some reason to the contrary, the easiest response which most men can make to the stimulus of a new idea is to accept it as true. The chief reasons to the contrary are the possession of critical habits and contradictory beliefs. Now it happens that most men do not have critical thought habits. They have been trained, as we have seen, to accept authority. Hence they are inclined to accept over-readily the opinions of a trusted pastor, teacher, employer, or friend, or of persons in authority, such as bankers, governors, senators, and the President of the United States. It is most natural, then, for a man to accept views coming to him with an apparent weight of authority, against which he has no other views. This is why a prejudice which is held by a few persons of prestige often infects a large part of a community, if only the believers repeat their dogmas sufficiently frequently, publicly, and with an air of finality.

In his keen little book, *Are You A Bromide?* Gelett Burgess divides all men into two classes. "Sulphites," according to his classification, are those who possess some originality of thought and speech. "Bromides" are those who think and say the conventional, inane, and, it must be added, what is all too frequently the false and prejudiced thing. Through the examples they set, "bromides" fashion the mental processes of many persons, who repeat "bromidiums" mechanically and believe as they do so that they are thinking. Examples taken at random from current speech will indicate the extent to which conventional dogma passes for thought.

If every one were educated there would be no one to do the dirty work.

Socialists would do just what capitalists do if they had the chance.

Our schools and colleges are full of dangerous radicals.

When these Hunkies have bathtubs in their houses they just keep coal in them.

This country needs a large supply of cheap, unskilled labor.

The Japanese have Chinese cashiers in their banks because they can't trust their own people.

Organized charity just means fat salaries for swivel chair officials.

There always has been war and there always will be.

The basements of Catholic churches are full of arms and ammunitions.

Vivisection has never saved a life.

All that business needs is to be let alone.

Prohibitionists took good care to have their own cellars well stocked before the country went dry.

If the steel workers weren't employed twelve hours a day they'd have just that much more time for drinking and gambling.

In times of stress and excitement men generally have many emotionally toned drives, such as readiness to believe reports of the wickedness of enemies or news of victories. This tendency to accept ideas then makes possible the creation in almost every one of a bias in favor of prevailing views. A prejudice current in a community may then, simply through repetition, infect a reasonable person without his suspecting it. Bombarded from all sides by the idea which is held by acquaintances, friends, and even members of his family, the individual loses his power of resistance and finally yields. In this manner in war-time some of the most rational Americans finally came to believe that there was little original in German philosophy, literature, music, or science, that this country was swarming with German spies and propagandists, and that all persons of German descent would bear careful watching!

Powerful factors in the spread and intensification of ~~prejudice by means of suggestion~~ are found in some epithets and slogans. "Hun," "Dago," "Sheenie," "Peck," "Greaser," "Gringo," "Hunky," and "Wop" are epithets usually ~~poisoned with hatred or contempt~~. Sometimes the stigma of an epithet is found in an adjective prefixed to a perfectly inoffensive word, as in "wild-eyed socialist" and "bumptious Negro." An interesting collection of such catchwords has been assembled by a newspaper writer who remarked:

"Motormoron," meaning a speed maniac careless of human life, is the latest of the coined epithets that seek to pack propaganda into a single word. Always, you will notice, the epithet is coined by the enemy of the thing characterized. "Scofflaw," to describe the drinker of proscribed liquors, is a recent contribution to a lengthening list. It is perhaps offset by "spigotbigot," a term of derision for fanatical drys.

So the warfare wages, for "man," says Stevenson, "lives not by bread alone but principally by catchwords." They emerge from every controversy. In their terms you can almost write American history. "Whigs," "Tories," "locofocoes," "barnburners," "copperheads," "carpetbaggers," "scalawags," "greenbackers," "stalwarts," "half-breeds," "mugwumps," "standpatters," "jingoese," "junkers," "pacifists," "bitter-enders," "reactionaries"—so the list runs, and there is a story of struggle hidden in every item. Catchwords pepper other fields of effort. "Jay-walker" is about the only illustration of good-natured humor in the entire lexicon of propaganda by epithet. At least three words have proved formidable weapons—"scab," "slacker" and "profiteer." Each has proved a constraining, sometimes a tyrannical thing.¹²

A second factor which facilitates the spread of prejudices is ~~ignorance of important relevant data~~. The influence of this factor was recognized with unusual discrimination by an old English philosopher. "There is a man whom I hate," he exclaimed one day, as he noted a passer in the street. "I did not know that you were acquainted with

¹² Cincinnati *Times-Star*, date unknown.

him," replied a friend. "I am not," was the rejoinder, "and I am glad that I am not, for if I knew him I might love him." We are all somewhat like this hearty hater, though most of us are hardly aware of it.

Why now are we ignorant of facts? This is, in the first place, a matter of lack of contacts. We hate the Bolsheviks, and we never talked with a Bolshevik or read a Bolshevik document in our lives. We hate the Japanese, with whom the limit of our contact has been the purchase of a set of dishes. We hate the Roman Catholic clergy, and we are not acquainted with even one priest. We hate French Canadians, a group unknown to us save for our laundress and her children, all of whom we like. We hated the Germans in war-time, with an intensity that varied directly with our distance from the front. The Armistice gave us a chance to get acquainted with them again. Then the boys in the army became so friendly that their officers could not prevent fraternizing with the "Fritzies," and many of the soldiers brought home German brides!

The trouble with most of us is that we know just enough to make us think that we are wise, when in reality we are not far different from the fabled blind men who went out to inspect an elephant. Each touched a different part of the elephant, you will recall—the tail, the trunk, the leg, the ear and the side. Each then maintained vehemently that his was the only correct concept of the beast. It resembled a rope, a snake, a post, a fan, and a wall. Finally the five had a first-rate quarrel over the matter. Such are many of our quarrels over much larger questions! In the autumn of 1924, for example, many sincere and supposedly intelligent persons opposed the proposed child labor amendment to the Constitution on the ground that it would forbid the working of all persons under eighteen years of age. It was plain to all discrimi-

nating men that these individuals had either not read the amendment or had failed to understand a simple English sentence. The amendment did not of itself forbid the working of children, it simply gave power to Congress "to limit, regulate, and prohibit the labor of persons under eighteen years of age," a very different thing. Again, a few years ago many persons were greatly prejudiced against the coal miners, because they understood that the miners wanted to work only five days per week. When they learned the truth, that the demand for a five-day week simply meant that men who had been given employment only three and four days per week were begging to be given the chance to labor *at least* five days, their prejudice was greatly reduced, if not removed.

It is of course true that increased knowledge does not always remove prejudice. Sometimes it increases it, as when the news of the use of chemical warfare by the Germans first came to the people of Britain. Sometimes, too, it causes a contrary prejudice to rise, as when people who have been pro-labor become anti-labor upon hearing of violence by strikers. Sometimes, again, one may be intellectually convinced, but quite unconvinced emotionally. (Such was the case of the keen-witted college student who for several days in succession argued vehemently with his economics professor regarding the tariff. Each day he was obliged to admit, point by point, that his teacher's argument in favor of free trade was logically impregnable, but each morning found him back where he had started, a strong protectionist!

There is a second cause which contributes to the ignorance on which our prejudices are founded. This is lack of time. Like most of our fellow-citizens, we get our views of the world primarily by twice daily glancing hurriedly at a newspaper for fifteen minutes. We acknowledge, let



us say, that we do not know the Bolsheviks, the Roman Catholic clergy, the Japanese, and the Negroes. We should perhaps be willing to become acquainted with all of them, but just now we are extremely busy with our daily affairs. We simply can not find time to get acquainted with the whole world! There is no one whom this lack of time does not affect. It is an influence which can not be escaped. The professional may devote his entire life to the study of the Japanese, but he can not be a specialist on every subject.

We have pointed out that increase of knowledge does not always decrease prejudice. This is true even in the case of many persons who are rather critical in their thought habits. Apparently, then, some other contributory cause of prejudice must be sought. This we find in difference of experience. In proof of this view it can be shown that whenever special agencies exist or are created for the development of friendly contacts, prejudice in both groups party to the conflict is almost invariably greatly reduced. Such has been the experience, for example, of boards of arbitration, and also of interracial committees. This change in attitude may be in part the result of increased understanding. But often each side already understood thoroughly the case of the other. Then the changed attitude seems to be rather the effect of sympathy developed out of the increased uniformity of experience found in co-operating to a common end. The relative strength of ignorance and of lack of common experience has not yet been determined, but it seems safe to say that both must be considered in any reckoning of the causes of prejudice.

We have now finished our consideration of the causes of prejudice. It would be interesting to examine in detail the effects of the various types of prejudice, but lack of space forbids. It is essential, however, that mention be

made of the harm which prejudice causes when directed against sources of information. It affects not only our attitude toward individuals but also our attitude toward what they say. There must be millions of persons in the United States who refuse to read or at least to attribute any value to articles from the pen of such men as Upton Sinclair, Harry F. Ward, and Scott Nearing, while other millions take a similar stand with respect to the statements of men like Bishop Manning, Andrew J. Mellon, and Nicholas Murray Butler. Certain newspapers and periodicals are also ignored by many persons. Some of them scorn any article appearing in such publications as the *American Mercury*, the *New Republic*, and the *Nation*, while others scoff at anything presented in papers and magazines like the *Chicago Tribune*, the *World's Work*, and the *Saturday Evening Post*. There may be a few of these multitudes who, after thorough investigation, have come to the conclusion that such persons and periodicals are unreliable, but for every individual of this sort there are many whose hostility is based simply on the fact that they do not like the philosophy and the motives of the informant under consideration. They are not unlike the radical sailor who exclaimed, when shown by an atlas that there was no "port of Madrid," "Ho, you think I'd believe that damned capitalist map!" The person who takes such an attitude as this of course commits a serious blunder. One should not shut himself off from a possible source of information simply because he does not like something about the informant. It seldom happens that the truth is all on one side of any question. Disliked persons and periodicals are often keen critics and fact-finders, able to bring out clearly some truth on their side of a question and to reveal weakness in their opponent's case. Indeed, their unpopularity is often caused by their

unusual skill in discovering and presenting unpopular facts. One who refuses to hear the other side of a question presented by its friends whom he dislikes, often thereby chooses ignorance instead of knowledge, and in consequence assumes and attempts to defend an indefensible position. Such was the choice of the university professor who ridiculed a student whom he had been examining because she quoted an article about Negroes which had appeared in a Negro magazine!

(1) The question naturally rises why men have not long since set to work freeing themselves from such a vicious influence as prejudice shows itself to be. Five outstanding buttresses of prejudice must therefore be noted. The first is ignorance. Most persons do not know when they are biased, for although it is easy to recognize prejudice in distant times and places and in one's opponents, it is very difficult to recognize it in oneself. As students of history few of us have not marveled, for instance, at the ancient feud between English and Scotch and have not deplored the loss of life in wars which seemed to us quite useless. We can even see that our own war with Mexico was entirely unnecessary, the result of bias which made it easy for our people to believe that Mexico, as a backward and presumably inferior nation, had no rights which we were bound to respect. Likewise we marvel at such present-day hatreds as those of Greeks, Bulgars, Serbs, and Rumanians for each other, and remark upon the utter folly of their perpetual hostility. Of course we smiled pityingly in 1914 at Germany's "Gott strafe England" and at her "Hymn of Hate." But when our own bias is questioned we hasten to deny its existence, alleging that our good opinion of everything American is a mature and well-founded judgment.

(2) A second reason for failing to get rid of prejudice is that men often do not think that to do so makes for efficient

living. They note many cases in which the prejudiced and aggressive flourish, while the unbiased and judicial languish, apparently precisely because of their lack of prejudice. They may concede that the world would be a better place in which to live if every one abandoned his unsound prejudices. They reason, however, that the world being as it is, they can not afford to give up their unsound prejudices till every one else does.

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A third reason why most men do not get rid of their prejudice is that ~~whenever they attempt to do so~~ they feel most uncomfortable. They are like those fabled cave-dwellers who could not be persuaded to move out into the open air. Whenever they went to the mouth of their den and looked out they were blinded by the unaccustomed light, and felt comfortable once more only when they had scurried back into their familiar darkness. They could not be convinced that if they would only take the time and the pains to become accustomed to the outside world, they would be far better off. So it is with most men when they consider the possibility of abandoning some cherished bias or prejudice, such as a belief in the supreme excellence of the political faith in which they were nurtured. They are dazzled by the new light and turn from it in dismay. The young woman was therefore typically human who said, "I am satisfied with what I have been taught to believe. It is easy for me to believe it. Why should I trouble myself to study out this matter?" Truth may order us to advance, but it seldom prevails when friendship and pleasant custom order us to stand fast.

This situation is inevitable, as we realize when we note that mentally men *are* their habits, their beliefs, their prejudices. For men to give up a prejudice is to give up a bit of their individuality, and this they are naturally little inclined to do.

(4) Fourth, it is very difficult to get rid of our prejudices because they are usually community attitudes, and the forces which created them in us usually persist and hamper our efforts to liberate ourselves. Many a young student has cast off some prejudice while at college, only to be recaptured for that prejudice by the united counterattack of his parents, pastor, and friends, all supported by an intangible but very real community sentiment.

(5) False pride is a final source of difficulty in getting rid of prejudice. Necessity often forces us to make judgments without adequate knowledge. We must vote or not vote, for example, and if we vote we must favor a particular candidate or measure. Perhaps a very minor or irrelevant influence determines our choice. We may like the name of one of two candidates better than we like that of the other. Mason may appeal to us more than does Mulcahy. Having made our choice we like to think that it is a wise one; and false pride impels us to defend it, even at the risk of self-deception, by rationalizing our position.

We are now prepared to consider in the next chapter the important subject, "How are we to liberate ourselves from prejudice?"

CHAPTER III

CURES AND PREVENTIVES OF PREJUDICE

THE CONVERSION OF CAPTAIN G ¹

We [a group of American Negroes] had been in training for commissions at the Fourth Officers' Training Camp, Fort Dodge, Iowa, for about a month, when word was whispered about that the camp was to be discontinued and the candidates transferred to Camp Pike, Arkansas, for infantry training or to Camp Gordon, Georgia, for machine gun work. You may imagine our feelings. Most of the men were northerners by birth, and the thought of going into the southland held no charms for them. The few southerners were for the most part students in northern universities at the time of their enlistment and, having tasted of the freedom of northern city life, were reluctant to return south of the Mason-Dixon line. When the rumor was confirmed by orders and we found that we were actually to be transferred, heavy gloom replaced the spirit of happiness which had permeated our four companies.

Several days on the road. At last we arrived. Night had fallen and there was a depressing stillness throughout the camp. Only the thud-thud of our own marching feet could be heard. A nasty drizzle was falling and added to our general gloom. After much walking we were halted before one of the grim and bare barracks. The drizzle turned into a steady rain which in spite of raincoats drenched us to the skin. We wondered what was what and finally asked one of the officers if we were to spend the night out of doors. He laughed bitterly. He was black, too, and there were nineteen others of our race. He told us that "there had been some mistake." When the camp officials received orders to prepare to receive candidates for commissions and twenty officers they assumed that they were white. What to do with

¹ Bruno Lasker, ed., *And Who Is My Neighbor?* (The Inquiry, New York, 1924), pp. 64-68, abridged.

these black fellows was a problem. Of course, black officers couldn't possibly live in "Officers' Row," and certainly a barracks must be found for the black candidates which would at least be on the edge of the camp. After much delay, two barracks were emptied of white soldiers and we were assigned to them. I think we rejoiced a bit that the white soldiers were put to the inconvenience of moving at midnight. Don't blame us!

The next morning we arose and put our new house in shape. The sun was shining and our spirits had risen. After all, a good breakfast and the sunshine are good antidotes to gloom. Captain G. strode in. Every man stood at attention. He was as handsome in figure and features as any white man I've ever seen. Tall—broad of shoulder—straight as an arrow—every inch a soldier. He looked us over. Not a muscle moved. Not an eyelash fluttered. And then he spoke. We could detect suppressed emotion. "This thing has been forced on me," he said. "I never thought I'd be assigned to train a gang of niggers. Well," grimly, "you'll work like hell, and if any of you get a commission it'll be in spite of me." He said some more but I didn't hear him. Every bit of true American manhood rose in rebellion in my breast and I was blinded with passion. My brain cleared. I looked about. He had gone, but not a figure moved. We seemed rooted to the floor. Strong men clenched their fists and bit their lips. And then confusion broke. Every one talked at once. There were curses—threats. Finally a big chap from the regular army leaped upon a table and got a semblance of order. "Let's thrash this thing out," he said. Realizing that to hold a meeting without the presence of an officer could be regarded as mutiny and wanting to play fair, we called in one of the colored officers. He stood silently near the door.

Some were for deliberately leaving the camp in a body. That meant defiance of authority and perhaps the federal penitentiary, but who cared! Some suggested that a good whipping would do Captain G. a world of good. "Let's write to Emmett Scott (Secretary of Tuskegee Institute, who, in the midst of the various troubles incident to the enlistment and training of Negroes, had been appointed confidential adviser to the War Department) or the Secretary of War himself," some cried. All sorts of drastic measures were suggested, and bedlam was breaking out anew when a quiet little fellow, scarcely over five feet, gained attention and spoke. "Listen, fellows, we are men and soldiers. We

are loyal Americans. We are Negroes. Our honor is at stake. We represent the best that our race affords. The eyes of America are upon us. Let's play square-soldier for the man and trust in God." That was all. No display of oratory. Just a simple quiet message. But it worked. Resentment left us. Hate was replaced by love. We silently agreed "to soldier for the man and trust in God."

And we did "work like hell." No group of soldiers in any camp suffered more than we. When we hiked it was twice the distance and at double the pace of other units. Our guns were never clean enough. We stood at attention for two hours on inspection. At the slightest provocation Captain G. abused and cursed us. My, how that man could curse! He tried deliberately to break us, body and soul, but we stood it like men and "soldiered."

Toward the end he seemed to relent a bit. Our task grew lighter. Final examinations came, and we carried off many honors. Over fifty-five percent of our company received commissions, and that was not a bad percentage. We were the most fit physically in the camp—hard, intensive training had made us that.

The colored citizens of L. R. were proud of us and gave a "graduation dance." Captain G. was there and when called upon to speak, told us a most amazing story which explained much.

"When I was a lad," he said, "my father, who was sheriff of S. county in Oklahoma, was killed in a fight with Negro bandits. On his death bed, he made my older brother and me swear before God that we would avenge his death by hating all Negroes and taking advantage of every opportunity to do them an injury. I grew up hating all Negroes, placing them all in the same category and determined to carry out my father's death-bed wishes. I became a ranger and was the terror of Negroes with whom I came in contact. I hated them bitterly. When I found that I was assigned to train colored men for commissions I felt insulted and my hatred increased. Then I saw my chance to avenge my father by making these men under my command suffer. I deliberately set out to wreck them physically and break their souls. I had no idea that they could stand the pace which I set, and that any would earn commissions was not given consideration by me. But they stood the test. They beat me at my own game and laughed as they did it. I learned first to admire them, then to love them. I realized for the first time that the souls of black

men were as noble as the souls of white men. I'm proud of Company — and I love every man in it and I love all black folk. I'm your friend until I die."

That is all. We were stunned at the revelation and crowded around him to shake his hand. There were tears in his eyes and in ours, also, for in spite of it all we, too, had learned to admire and love *him!*

Captain G., it is obvious, got over his prejudice, though not because he wished to do so. Is it possible, however, for persons deliberately to free themselves from prejudice? To this question the answer must be that although we can never entirely eliminate it, we can escape from its grosser and more serious manifestations. Since practically all prejudices are habits, the problem of coping with them is for practical purposes simply one of change of habit.

A number of methods of working toward the elimination of prejudices are frequently recommended. We shall examine several of these devices, as soon as we have noted some preliminary general considerations.

We have become familiar with the Law of Readiness, which tells us that success in learning is largely determined by emotionally toned drives. Since this is true, it is essential that any one who is to get rid of his prejudices should first become strongly desirous of becoming prejudice-free. There are a number of ways in which we can become emotionally toned in this direction. First, we can help by making vivid to ourselves the great advantages to be gained by being open-minded, and the great costs of bias.

When one has intellectually resolved to take a trip to Europe, taking thought of places of interest to visit and of itineraries, examination of pictures of the *Leviathan*, Westminster Abbey, and the Matterhorn, and study of guidebooks and maps, all tend to strengthen the intellectual resolve by an emotionally toned drive. Similar methods

are effective in the case of bias. We can make vivid and can charge with emotion the ideals which we have set before ourselves. This is done by drawing in our mind's eye a picture of ourselves as we shall be if we are biased—unreasonable, ineffective, harming ourselves and our associates. Such a person was George III. Then in contrast we can see ourselves as unbiased men—clear-thinking, effective, respected, a credit to ourselves, and a help to our fellows. Such a person was Benjamin Franklin. We shall find it a helpful exercise to summon pictures of such folk to our minds, especially pictures of clear-thinking persons whom we admire, and of biased folk whom we strongly dislike. Making frequent and vivid contrasts on the subject will be helpful in getting the desired emotionally toned drive.

In the second place, we shall derive benefit from reading some of the extremely interesting works which portray the harmful effects of bias and the advantages of reason, a number of which are listed in the bibliography.

We are now ready to note which of our opinions we ought to study in order to make sure that they are not prejudices. First, plainly, we ought to examine those opinions which we suspect are irrational. Second, we ought to make a special inquiry whenever we find that we have a belief regarding such matters as property, the family, religion, the state or international relations, to question which seems to us "to carry skepticism to an insane degree." Mr. Trotter gave excellent ground for such investigation in the words: ²

When . . . we find ourselves entertaining an opinion about the basis of which there is a quality of feeling which tells us that to inquire into it would be absurd, obviously unnecessary, unprofit-

² William Trotter, *Instincts of the Herd in Peace and War* (The Macmillan Company, New York, rev. ed., 1926; Ernest Benn, Ltd., London), p. 44.

able, undesirable, bad form, or wicked, we may know that that opinion is a non-rational one, and probably, therefore, founded upon inadequate evidence.

When we discover an opinion which we suspect may be a prejudice, there are several steps which may helpfully be taken to determine the real nature of the opinion. First, we should try to recall the circumstances under which we became imbued with that opinion, noting particularly whether we got it from any of the social influences which have been cited as biasing. Second, we should try to discover whether there was in us any bias which tended to predispose us in favor of any opinion which we suspect may be unwarranted. We shall not be very good judges since we have to sit on our own cases, but it is worth our while to try to appraise, very tentatively indeed, the forces which may have given us particular opinions.

In our hunt for prejudices we can, in many cases, be helped by other persons. A debating society is of limited value. In such a group men usually argue for the sake of victory, not in order that they may attain the truth. The method of such a society tends to make disputants ignore or minimize unpleasant truth and to exaggerate pleasant facts. It tends, therefore, to promote rather than to dispel bias.

A discussion group, on the other hand, is notably useful. In such a group, ideas are interchanged for the purpose of discovering whatever elements of the truth may be present in every view, and of combining these elements in a new view which will be generally acceptable because it recognizes truth, wherever it may be found.³

If we are students and have access to keen teachers who conduct, by the discussion method, available courses in scientific method and in those fields in which we are most

³ Cf. *infra*, Chapter XIV.

liable to bias—hygiene, the social sciences and psychology—we shall do well to work under them. A course conducted by discussion is much preferable to one conducted by the lecture or the question-and-answer method. In the first place, it makes one think. In a discussion course where many opinions are freely expressed, the cross-examination of the teacher and the challenging questions of fellow students compel one to be careful of his premises, critical in examining evidence, ready to change his mind when evidence warrants it, logical in his reasoning, and sound in his conclusions. In the second place, one is far more likely to attain the truth by listening to and participating in discussions and by noting the points which partisans succeed in establishing, than he is by accepting the statements of an instructor, no matter how unbiased and judicial he may seem. George Bernard Shaw was right when he observed that “the way to get at the merits of a case is not to listen to the fool who imagines himself impartial, but to get it argued with reckless bias for and against.” And, third, we are usually more willing to accept unpleasant truths when we seem to discover them for ourselves than when they seem to be thrust upon us.

A forum which has the support of alert and eager members is a valuable substitute for a discussion class. While it is more likely to be plagued by cranks than is a class, almost any forum is better than no forum at all. It at least gives opportunity for that free discussion which refines and makes one refine his own opinions.

Now we are ready to see what we can do about specific prejudices. Let us recall once more that prejudices are created by the conditioning of responses. The problem of elimination of prejudice is therefore essentially that of unconditioning our responses. How is this to be done? The question can be answered finally only after much

research. As yet we can say with certainty only that some methods are ineffective and that some others are effective, while several devices seem to work or to fail according to associated conditions which are not yet clearly determined. Our discussion of the subject will therefore have in part to be tentative.

First, it is sometimes said that disuse will remove prejudice. Watson is of the opinion that "the method of disuse in the case of emotional disturbance is not as effective as is commonly supposed." There is little evidence that adults get over racial, national, or religious prejudices in this way, and very limited tests on children seem to indicate that the simple lapse of time does not result in disappearance of fear reactions.⁴

Second, use is sometimes made of the method of verbal organization, that is, of seeking by talk regarding the object of the prejudice to change the habitual response. Limited experimental evidence on this method seems to show that fear reactions in children can not be removed by this method.⁵

The child who was afraid of rabbits did not get over his fears through hearing rabbit stories or even through having the harmlessness of the rabbit explained to him repeatedly and in detail. There is some evidence, however, that even in the case of children emotions other than fear can sometimes be successfully treated by this method.

In the case of adults this method of verbal organization can be helpfully combined with others, even in dealing with fear. Psychiatrists have found that when the individual understands the source of an attitude, he often perceives its

⁴ John B. Watson, *Behaviorism* (W. W. Norton and Company, New York; Kegan Paul, Trench, Trubner & Co., Ltd., London, 1925), pp. 133-134.

⁵ *Ibid.*, pp. 134-135.

unreasonableness. Although frequently there is no change in attitude when this occurs, on the other hand the prejudice often disappears as though by magic, and in other cases so dwindles as to be relatively amenable to other modes of treatment.

Third is the method of frequent application of stimulus. This method has been studied but little. Present results indicate, however, that positive reactions are not to be developed from the use of this method. That is, one does not change from dislike to like, or from fear to favor by being frequently exposed to an unpleasant stimulus, whether it be the presence of a Spaniard, the sermon of a modernist, or the discharge of a ten-inch gun. In some experimental cases, indeed, Watson found that cumulative effect rather than an adjustment was obtained.⁶

Sometimes the method of using social factors is proposed. This may consist in making fun of the prejudice, or thrusting the object of the prejudice upon its subject. Watson averred that in children "this process tends to breed negative reactions not only to the animal feared but to society as a whole," and characterized it as "one of the most unsafe methods in common use for eliminating fears."⁷ There is no evidence for believing that it is any more useful in the case of adults.

Another method of using social factors is to have the prejudiced persons associate with those who are unprejudiced. Sometimes this device is effective. Thus a little boy who was afraid of rabbits had his negative attitude considerably reduced by associating with other children who were having a good time playing with a rabbit. A prejudiced person might in time become changed by associating, let us say, with the unprejudiced members of a

⁶ *Ibid.*

⁷ *Ibid.*

Cosmopolitan Club. This method has the danger, however, that instead of removing fear or prejudice it may result in infecting those who have previously been fearless or unprejudiced.⁸ All depends upon the relative powers of resistance of the members of the two groups.

One of the most effective means of removing prejudices is found in the process of "identification," or of putting oneself in the place of the other fellow. Seldom has this method been used more ingeniously than by the Alsatian pastor, John Frederick Oberlin. The good man was frequently visited by antagonists, who asked him to settle their quarrels. On such occasions Oberlin would frequently draw the attention of the disputants, whom he had seated on opposite sides of his study, to an unusual picture which hung on the wall. "What is it?" he would ask. "A flower," one would say without hesitation. "A bird," the other would object. Then Oberlin would have on his hands another little controversy, which he would let develop for a few minutes. Then he would quietly ask the visitors to exchange seats with each other. This done, what had seemed to be a flower appeared like a bird, while what had had the aspect of a bird seemed to be a flower! All depended, as the pastor kindly indicated, upon the point of view.

It is of course not easy to make reasonable and vivid the view of an antagonist. When we try to do so we are likely to have the experience described by Benjamin Harrow.⁹ Said he:

"I once asked one of those easily misled individuals, a bubbling-over patriot, what he (an Englishman) would have done had he

⁸ *Ibid.*, pp. 135-136.

⁹ *The Romance of the Atom* (Horace Liveright, New York, 1927), p. 154. Quoted in *World To-morrow*, Vol. XI (February, 1928), p. 83.

been born a German? 'What every decent German did—I would have gone to fight,' he flashed back. And then he thought a minute. 'But I could never have been born a German,' was his parting shot of wisdom."

In spite of this difficulty it is nevertheless essential that the task of putting oneself in the other fellow's place, which is but another way of saying "the task of unconditioning one's emotions," shall be attempted.

The most effective method yet devised for dealing with this problem of prejudice removal is that of reversing the process by which prejudice is created. It will be recalled that prejudice is the response to a conditioned stimulus, and is created by having pleasant or unpleasant ideas become associated in the mind with stimuli which are naturally neutral. Thus the idea of "bully" became attached to that of "Italian" in one of our earlier illustrations.¹⁰ This prejudiced idea must become detached from the neutral idea with which it has illogically become associated. This can be done by experiences which associate different kinds of idea with the object of the prejudice.

Description of a controlled laboratory experiment on this point will make the method plain. Watson, the director of the experiment, reported:

The most successful method so far discovered for use in removing fears is the method of *unconditioning* or reconditioning. . . .

I wish to go into the details of one case where unconditioning was attempted because it illustrates not only the method used but the various difficulties one is likely to encounter in such work.

Peter was an active eager child approximately 3 years of age. This child was well adjusted to ordinary life situations except for his fear organization. He was afraid of white rats, rabbits, fur coats, feathers, cotton wool, frogs, fish, and mechanical toys. . . .

Peter was put in a crib in a play room and immediately became absorbed in his toys. A white rat was introduced into the crib

¹⁰ See *supra*, p. 19.

from behind. (The experimenter was behind a screen.) At sight of the rat, Peter screamed and fell flat on his back in a paroxysm of fear. The stimulus was removed, and Peter was taken out of the crib and put into a chair. Barbara, a girl of two, was brought to the crib and the white rat introduced as before. She exhibited no fear but picked the rat up in her hand. Peter sat quietly watching Barbara and the rat. A string of beads belonging to Peter had been left in the crib. Whenever the rat touched a part of the string, he would say "my beads" in a complaining voice, although he made no objections when Barbara touched them. Invited to get down from the chair, he shook his head, fear not yet subsided. Twenty-five minutes elapsed before he was ready to play about freely.

The next day his reactions to the following situations and objects were noted.

Play room and crib.....	Took his toys, got into crib without protest
White ball rolled in.....	Picked it up and held it
Fur rug hung over crib.....	Cried until it was removed
Fur coat hung over crib.....	Cried until it was removed
Cotton	Whimpered, withdrew, cried
Hat with feathers.....	Cried
White toy rabbit with rough cloth....	Neither negative nor positive [reaction]
Wooden doll.....	Neither negative nor positive reaction

Training for removal of these fears in Peter was first begun by utilizing social factors. . . . There was considerable improvement, but before retraining was completed the child fell ill with scarlet fever and had to go to a hospital for a period of two months. When coming back from the hospital a large barking dog attacked him and the nurse just as they entered a taxicab. Both the nurse and Peter were terribly frightened. Peter lay back in the taxi ill and exhausted. After allowing a few days for recovery he was taken to the laboratory and again tested with animals. *His fear reactions to all the animals had returned in exaggerated form.* We determined then to use another type of procedure—that of *direct unconditioning*. We did not have control over his meals, but we secured permission to give him his mid-afternoon lunch, consisting of crackers and a glass of milk. We seated him at a small table in a high chair. The lunch was served in a room about 40 feet long. Just as he began to eat his lunch, the rabbit

was displayed in a wire cage of wide mesh. We displayed it on the first day *just far enough away not to disturb his eating*. This point was then marked. The next day the rabbit was brought closer and closer until disturbance was first barely noticed. This place was marked. The third and succeeding days the same routine was maintained. Finally the rabbit could be placed upon the table—then in Peter's lap. Next tolerance changed to positive reaction. Finally he would eat with one hand and play with the rabbit with the other, a proof that his *viscera were retrained along with his hands!*

After having broken down his fear reactions to the rabbit—the animal calling out fear responses of the most exaggerated kinds—we were next interested in seeing what his reactions would be to other furry animals and furry objects. *Fear responses to cotton, the fur coat, and feathers* were entirely gone. He looked at them and handled them and then turned to other things. He would even pick up the fur rug and bring it to the experimenter.

The reaction to white rats was greatly improved—it had at least reached the tolerance stage but did not call out any very excited positive manipulation. He would pick up the small tin boxes containing rats and frogs and carry them around the room.

He was then tested in an entirely new animal situation. A mouse which he had not hitherto seen was handed to him together with a tangled mass of earthworms. His reaction was at first partly negative but this gave way in a few minutes to positive response to the worms and undisturbed watching of the mouse.¹¹

Now we are in a position to understand by what process Captain G. came to change his mind. We know that at the beginning of the episode he had an intense hatred for Negroes. We can safely infer, though we are not told, that he also had a keen respect for good soldiers, especially for men who could endure to the limit without a murmur. At the start Captain G. thought of the men in his company primarily as Negroes. He therefore hated them. Presently, however, in the light of the pleasant phases of his experience with them, he came to think of them not only as

¹¹ Watson, *op. cit.*, pp. 136-138.

Negroes, but also as good soldiers. Yet a little later he perceived that these Negro soldiers were passing good, and his military attitude became dominant over his personal attitude. The men were then viewed primarily as excellent soldiers, and only incidentally as Negroes. Finally, so strong did the idea excellent-Negro-soldier become that it passed beyond the confines of the company. Presently Captain G., to his surprise, found himself thinking of the Negro *race* as worthy of respect and friendly regard!

Now we must consider very specific means by which we adults can attack our own prejudices. We shall assume that we have an intellectual drive to become open-minded, and have added to it an emotionally toned drive which makes us eager to attain the truth, even at the expense of somewhat painful mental adjustments. Our problem, it must be remembered, is that of bringing about tolerance or approval, by gradually developing contact with the object of aversion under pleasant conditions, so that the satisfaction which is found in the agreeable situation may little by little be transferred to the object of the prejudice.

We can, in the first place, read biographies, novels, and dramas which present sympathetically the group or individuals in the group against which we are prejudiced. This will help us get into a receptive mood. We may be satisfied, for example, that the South was quite in the wrong in the Civil War, but it is difficult to read a first-rate novel or biography in which the attractive hero is a southerner of this period without mentally sharing his experience and therefore feeling increased understanding and sympathy for those who fought for the Confederacy.

Second, we can read scientific and polemic literature on the side of the case which we oppose—not poor literature whose arguments we can demolish easily, but the very best works of masters of the subject. One who delights in care-



ful, scientific reasoning is likely to discover, if he has not too strong a drive to the contrary, that his pleasure in close reasoning is in a measure transferred to the associated ideas which were previously disliked.

Intelligent partisans can usually be found who are eager to recommend material on their side of moot questions. College and high school teachers may make helpful suggestions. Reference librarians are especially trained to do this kind of thing, and they have access to books and periodicals which give references to sources of opposing arguments. There are some books of selected readings that give clashing arguments on live questions. These must be read with great care, however, for if an editor selects better arguments on one side than on the other he may make the weaker case appear to be the stronger. The same care must be employed in using such periodicals as the *Literary Digest*. It is on the whole safer to read opposing and frankly partisan periodicals or bipartisan articles such as those in the *Forum* and the *Congressional Digest*. One can then contrast for himself the facts and arguments which they present.

Third, we can get acquainted with intelligent and personally likable opponents with whom we can discuss a controversial subject; trying to understand their view fully. The understanding and sympathy which come from acquaintance and coöperation with opponents greatly favor tolerance and open-mindedness. Following the riot of 1906, for example, an interracial meeting was held in the city of Atlanta. The whites who were present later declared that they had not known that there existed in the entire world such an intelligent and fair-minded body of Negroes as those with whom they had met, while the Negroes said that they had not realized that anywhere was there so sympathetic and reasonable a group of whites. From this

face-to-face meeting and frank and open discussion came the movement for interracial coöperation in the South, which is doing many things to bring about a new spirit of understanding and friendship between the races.

Fourth, if the subject is being currently discussed, we can attend serious meetings where we can hear presented on a high plane the view which we reject. Of course, we shall not be freed from prejudice by attending the ordinary political meeting or religious revival, for example, because at such gatherings appeals are made more to emotion than to reason, and one is likely rather to be confirmed in his prejudice. The Protestant will benefit, however, by attending a Catholic mission for non-Catholics, for he will realize that much of what he has heard of Catholics is untrue, while the Catholic will gain respect for those with whom he disagrees by attending a Protestant service and observing that all Christians are striving toward the same end.

It has, of course, occurred to us that the task of freeing ourselves from bias will probably require considerable time, and that we have relatively few hours at our disposal. Straight thinking may be the most important thing in the world, but just now the garden must be hoed, the lesson in French must be learned, the baby must be fed. Where are we to find the time necessary for a thorough mental house cleaning? Probably we can not do better than to take up one question at a time, and that at a moment when it is of current interest and importance and therefore demands some attention, anyhow. A national election is approaching, let us say. Now is a good time to determine whether we are biased in our preference for the party whose candidates we usually support. When this question has been settled it will be time to take up another.

It need hardly be said that in undertaking to free our-

selves from prejudice on such a subject as politics we are undertaking a difficult task. When we consider, moreover, that this is but one of many fields in which most men entertain prejudice, we can readily see that the attempt to liberate ourselves from bias is very ambitious. It is probable that most persons who make the attempt follow in the footsteps of the philosopher Descartes. As Professor Robinson suggested, he moved all his mental furniture out into the front yard, examined it carefully piece by piece, and moved it all back in again! If we find that study does not cause us to change at least a few of our opinions, we may well fear that we have simply been rationalizing them. It is certain, however, that any modest and intelligent person who has faith in the truth, who firmly resolves to become open-minded, and who practices faithfully such exercises as have been suggested, can succeed in freeing himself from at least the grossest of his prejudices. Many persons have done this very thing. If then we seek wholeheartedly to free ourselves we shall in a relatively short time reap rewards for our efforts which will be most gratifying.

Much has been said of means of getting rid of prejudice, but as yet practically nothing has been said of means of avoiding it. Plainly, however, the campaign against prejudice is inadequate until prevention is stressed at least as much as is cure. This subject of prevention we shall now consider.

Any technique for preventing the rise of prejudice will of course take into account the Law of Transfer. This means that those who wish to create particular attitudes will foster situations in which it will be easy for desired attitudes to be transferred to ideas, institutions, or groups which are commonly objects of prejudice. Thus they may make it easy, for example, by means of promoting a concert

by Ignace Paderewski, for a friendly attitude in the members of the audience to be transferred from Paderewski, the pianist, to Paderewski, the Pole, and thus to Poles in general. In so far as this teaching is to be truly preventive it will of course have to be done before prejudiced attitudes are acquired, or at least before they are firmly fixed.

The preventive technique will of necessity take into account the Laws of Learning. This means, first, in recognition of the Law of Readiness, that the technique will be applied at a time when one has a drive to learn regarding the subjects on which prejudice is common. This time, as we know, is early childhood. The preventive program must therefore be directed primarily at little children. The public school is the strategic point of attack, for there children are assembled, and there qualified teachers are at hand. In that place generous provision must be made for pertinent instruction.

Second, the Law of Similarity will be applied. Teachers will make palpable to the children the numerous and significant ways in which members of groups which are objects of prejudice really resemble other folk. Then, as recognized similars, it will be easier for them to be given unprejudiced treatment.

Third, the technique will allow for the Law of Uniformity. Pains will be taken to provide situations which consistently influence in the desired direction, until the wanted attitudes have been inculcated and fixed.

Fourth, the technique will allow for the Law of Intensity. It will accordingly be devised to make the lessons as vivid as possible.

Finally, the technique will take account of the Law of Frequency. It will therefore provide for much repetition and long-continued practice of desired attitudes, so that once attained they will become deeply seated habits, so

well fixed that they will stand against popular prejudice.

The methods which we shall take up here are partly curative, but they are primarily preventive. Discussion will be restricted to prejudices regarding national and racial groups. These appear to be the groups about which prejudices are most rife and most difficult to combat. If a technique can be devised for coping with them, the plan can probably be adapted without difficulty for use in dealing with such other prejudices as those of class, occupation, and religion.

We begin with matters which are well within the control of parents and teachers. First, we must note what methods pertaining to the subject of prejudice can be employed in the teaching of geography. In her admirable article, "Geography: for War or Peace?" Miss Blanche E. Atkins told of two of these methods. She said:

Since elimination of antipathy by familiarity is not feasible, there remain two methods. The first involves the establishment of two beliefs and the second that of a habit. The *first* of the two beliefs to be established is that most customs have adequate causes in environment. The *second* belief is that if other peoples do unreasonable and "queer" things, so do we; and sometimes we do queerer things than they! The habit to be formed is that of practical helpfulness, not limited by the us-four-and-no-more and charity-begins-and-stays-at-home attitude, but the helpfulness that habitually disregards distance.¹²

Miss Atkins then continued:

We have all done a little toward establishing the first belief. We have made the children feel that for desert peoples to have only a tent home is not shiftless but wise; for Arctic peoples to eat heat-producing blubber is necessary; and that if we lived in the hot shady tropics we should wear as little clothing as does the African negro. But with locations, topography, and commerce

¹² Blanche E. Atkins, "Geography: for War or Peace?" *Journal of the National Education Association*, Vol. XIV, p. 143.

to teach, we have neglected to make evident the causes of many customs, so the children do not believe that there often is a cause.

We have failed perhaps to have them notice that it is in the undrained regions that tea is inevitable and that it is in regions without fuel with which to boil laundry that cooties are common. Sometimes the conditions are so very different from ours it is hard to see the cause. We do not realize that if we faced the furnace-like heat of the desert, heavy wrappings would be comfortable, or that if we had to take our baths in snow houses sitting on ice cakes, our baths might be as rare as those of the Eskimo. Hunger is so unknown to us that we cannot comprehend that it is the hunger of centuries which has allowed the poorest Chinese parents the custom of putting out the little new life as mercifully as possible before an individuality develops to be loved and to suffer. We have failed to bring out causes.¹³

Regarding the second belief Miss Atkins wrote:

That we, as other nationalities, hold many of our fundamental beliefs because of custom, not reason, can easily be made clear to any group of pupils. Ask for a show of hands of those belonging to some political party or any common religious denomination. Young people always indicate a decided preference; the younger and more ignorant, the more decided the preference is. Then ask for those who belong to the party or denomination opposite that of their parents. The group usually has to laugh at the completeness with which each stands convicted of being "just like the heathen," in holding as his own, opinions which he has adopted without reason. They thus must admit they too would burn incense and hire witch doctors and kill twins if their ancestors had always done so, for it is custom that makes most things seem right.¹⁴

Miss Atkins next spoke of contrasts in practices which can helpfully be called to the attention of children, to show that Americans have just as queer customs as have other peoples. There is space here to quote but one of her telling paragraphs.

¹³ *Ibid.*

¹⁴ *Ibid.*, pp. 143-144.

The Chinese gentleman has the "crazy" custom of shaking his own hand in greeting instead of doing the "right" thing by shaking that of his neighbor. We go to a reception and, by shaking each other's hands, mix microbes, and then, without washing our hands, eat sandwiches. The Chinese custom is the more sanitary. Africans rub noses in greeting. Americans touch lips. Are we the more sanitary? Japanese step out of their shoes on entering a house and their houses are clean. We track the offal and tuberculosis germs of our streets into the house, where the rugs collect them ready for the baby's damp fingers. The American man removes his hat on entering his home. It is "civilized" to remove the hat, but "heathenish" to leave shoes outside a door.¹⁵

The best geographical readers are a distinct aid in preventing the development of prejudice. They present sympathetically the life of people in many lands, and make us feel that under similar circumstances we should do much as do the people of whom we read. Of course, those books which frequently say, "How queer this custom is!" and "What a funny thing to do!" tend to create the very attitudes which the teacher wishes to eliminate. Such books, therefore, however excellent they may be in other respects, are to be avoided.

There are a few motion pictures which, through kindly interpretation, promote understanding of foreign peoples. Such a film was "Nanook of the North."

Recently there has developed a small but promising movement for promoting international friendship among children in the public schools. Miss Atkins wrote on this point:

The International Junior Red Cross, with headquarters in Washington, can now help any teacher to put her pupils in contact with a specific group of European or Asiatic children about their own age. The magazine of this organization is skillfully sowing seeds of understanding between peoples, picturing all chil-

¹⁵ *Ibid.*, p. 145.

dren, not as queer and different, but as interesting, lovable and alike. The children who have worked happily and painstakingly to dress a doll and write a description of their games to a foreign school, and have in return a doll in Czechoslovakian or Japanese costume, which, though smaller, is dressed in clothes made with a degree of skill far beyond their own, are not snobbish thereafter. Though the language of the accompanying letter is unreadable, its appearance, like the sewing, is "better than even our teacher can do," and through the accompanying translation the grateful hearts of refined personalities shine so plainly that our conventionally cruder and materially richer children are humbly admiring and more desirous of sharing whatever they can.¹⁶

Even this language barrier can now be readily and happily overcome by school children. They can learn the international auxiliary language, Esperanto, and correspond directly with boys and girls in other lands. So, for example, one American boy is now exchanging postage stamps with a lad in Finland, another is comparing recreations with a lad in Spain, while a third writes regarding their common interest in scouting to a boy scout in Belgium.

The practicability of this means of intercommunication for school children has been abundantly proved by careful experiments. One of the best known was made in the Green Lane Council School in the English city of Eccles, with two hundred children of the working class, aged between ten and thirteen. W. E. Page wrote of this test:

After two months the children began to correspond with children in other lands, and from their correspondents learned much regarding countries, customs, etc.

Stimulated by the enthusiasm of the students, the royal inspector of schools, Mr. Parkinson, who inspected the school, learned Esperanto, in order that he might better judge its educational efficiency. He visited the school three weeks after the beginning of the experiment, and marveled when he saw that the children

¹⁶ *Ibid.*, p. 146.

could already reply to questions in Esperanto asked by their teacher, and also could translate an anecdote written on the blackboard. After three months he returned to the school for his official visit, and marveled greatly at the extraordinary progress which the children had made. They could talk fluently with each other and with the teacher. They showed new alertness, which previously did not exist. They exhibited postcards received from children, which changed their viewpoint of life. The children wished to know about the conditions of life of their new friends, and that increased their interest in geography.

After only six months the students could read the language easily, write it from dictation almost without error, write letters in it with comparative facility, and speak and answer questions with a good degree of fluency.¹⁷

The experience of this school has been duplicated in a number of countries. On the basis of such successes, then, we are told in the report of the League of Nations that the ministries of education in several lands "insist upon the great moral influence exercised on the children by correspondence with school-children of other countries and by the use of Esperanto, which develops their interest in foreign nations, their taste for geography and history, and often even a spirit of international service and of human solidarity. . . ." ¹⁸

A consideration of the subject of history is now in order. In presenting this field the teacher has great power to mold attitudes toward other countries. Even the teacher who has to use a prejudiced textbook can employ its very defects as teaching points. Does the book complain, for example, that in the War of 1812 the British burned the capitol at Washington? Then the teacher can explain that

¹⁷ Elizabeth Hogg, *La Eksperimento de Eccles* (Brita Esperantista Asocio, London, 1921), Introduction, p. 3. The sentence order is changed in quoting.

¹⁸ *Esperanto as an International Auxiliary Language* (League of Nations, 1922), p. 25.

American forces had previously burned the government buildings in Toronto. Better yet, she can point out the folly of American and British children holding a grudge against each other because of what their great-grandfathers did. Again, when textbooks fail, as many of them do, to mention such an important thing as the Rush-Bagot Treaty, which provided for disarmament on the Great Lakes and inaugurated a century of peace with Great Britain, she can appropriately develop the story and discuss its significance with the children.

Historical readers may be of great help. Many of them tell of the achievements of notable men and women of other lands, Socrates and Michael Angelo, Mozart and Pasteur, Florence Nightingale and Jenny Lind. They also tell of the contributions of many peoples to the making of America, and of outstanding leaders, from Columbus to Louis D. Brandeis. To the extent that these things, rather than battles and court intrigues, are stressed in teaching, preventives of prejudice are provided.

By showing that many peoples have had leaders who made contributions to civilization from which we all benefit, the presentation of many other subjects can be made to serve the cause of preventing prejudice. In presenting art, music, and science, teachers can unobtrusively make a few remarks to point out that the gifted painter was a Spaniard, the composer of fine music was a German, the great scientist was a Russian. In presenting literature they can acquaint young folk with the works of writers in other lands, ranging all the way from the simple tales of Han Andersen and the Grimm brothers, through the novels of Hugo and Dumas, to the works which appeal especially to adults. And, of course, the teachers of language can do much to present sympathetically the life and ways of the peoples of alien nations. There are, indeed, few subjects taught

in the public schools in which the alert teacher cannot find opportunity to provide useful lessons regarding prejudice.

We turn from the curriculum to note various other useful educational devices. Teachers can promote and coöperate in the programs of Tolerance Day, World Goodwill Day, and the like, which are being increasingly observed by local communities. In many towns with populations of mixed origin there is a place for a Cosmopolitan Club. Others need an interracial committee. These two organizations are, however, primarily useful for persons who have attained at least college age.

All the foregoing plans have dealt primarily with the formation of attitudes. A word must now be said on the matter of developing the habit of practical helpfulness, which Miss Atkins rated as equally important. "During the last decade," she said, "our pupils have made clothes for French orphans and sacrificed gum and movies to send milk to European babies. They have sent dolls and bandages to Near East orphans."¹⁹ And, of course, there is no reason why, as needs become less general, these deeds of international helpfulness should cease. Every year brings acute distress in some part of the world. The internationally minded teacher can—if her principal and superintendent will let her!—promote the kind acts which develop a friendly interest, now in the earthquake-stricken children of Japan, now in the undernourished babies of British miners.

As we close this chapter it is well to enumerate some of the basic things which, though beyond the control of the individual, can be done by groups to ward off prejudices, and which merit careful consideration. First, parents' associations and similar organizations can stand against the present current of dishonest propaganda which demands

¹⁹ Atkins, *op. cit.*, p. 146.

that texts and teachers glorify all things American and belittle things which are alien, no matter what the truth may be.

Second, the practice of traveling fellowships and exchange professorships can be extended.

Third, as David Starr Jordan suggested, international athletic contests and international essay and oratorical contests might well be developed.²⁰

Last, and the idea includes many plans which lack of space excludes here, we have Kirby Page's thought-provoking proposal for a national peace department. This department, said Page, should study, organize, and direct a great variety of useful projects designed to interpret other countries sympathetically to Americans, to show Americans how they themselves create international frictions, and to discover and popularize lines of conduct and methods of adjustment which will make for international understandings, appreciations, and friendships.²¹

We are now prepared to consider, in the group of chapters which is to follow, some of the more important problems of logic.

²⁰ *Journal of the National Education Association*, Vol. XIV, pp. 45-50; but see also "The 'Friendly' Olympics," *Nation*, Vol. CXXVII, p. 151.

²¹ *A National Peace Department* (Council of Christian Associations, Student Department, Y.W.C.A., 600 Lexington Avenue, New York).

CHAPTER IV

DEDUCTIVE LOGIC

THE REAL ISSUE ¹

The indifference, even contempt, for the church and all that pertains to it has reached a point where it can not be ignored. The church, the sum of all the organizations that speak in the name of religion, cannot be indifferent to the situation.

Thomas R. Slicer once said to a meeting of ministers in Boston, "We belong to a discredited profession." It may be no more discredited than the law or medicine. It is unfortunately true that these professions do not in the minds of many represent any real service to society. But the reasons advanced for this opinion in regard to these two learned professions are entirely different from those which are the basis for a criticism of the ministry and the church. These reasons are said to be inherent in law and medicine. It is true that some say this of the ministry. But they are comparatively few among the much larger number who base their criticism on other grounds. These make the serious charge not that the minister is useless but that he is insincere.

No one can mingle very long among all classes of men without becoming distinctly aware that the real charge against the ministry is primarily one of moral rather than intellectual weakness. There is no doubt that much criticism is based on the latter ground in certain circles. But even here the former criticism is not wanting. Among the great masses of the people, who know nothing of higher criticism of the Bible and are willing to leave to the professors the discussion of the origin of religion, the issue is plain. I am not at this point discussing its justification. I am saying only that in some way this attitude of mind toward the ministry has come to be the common possession of large numbers of plain people. All one needs to do is to watch the attitude of the audience when a street speaker is introduced

¹ Arthur L. Weatherly, *Unity*, Vol. XL, pp. 326-327.

as a minister. On such occasions I have always insisted that I should not be introduced as a minister. I have invariably noted the barrier that has arisen between me and my audience when this injunction has been neglected. It can only be overcome with great difficulty. Unquestionably other factors enter into the situation, but many conversations with "all sorts and conditions of men," East and West, have led me to believe that I am correct in saying that the real basis of the feeling is a questioning of the moral integrity of ministers. No doubt but what much of this is illogical and unfair and that the same criticism might be turned upon those that criticize. But that is not to the point. Men in general expect more of ministers than they do of themselves.

Recently three men in widely different walks of life told me that they had no interest in churches. When I pressed them for a reason each one said, "No minister can tell the truth." Obviously such a generalization is not true. Many ministers do speak out without any hesitancy the truth as they see it. I am inclined to think that a very large number do. And yet when I reported these conversations to a group of church people I asked them what was the reason given by these three men for their indifference to the church. Instantly the reply came, "Insincerity."

I give these facts not with glee but with profound sorrow. Such a loss of confidence in the teachers of religion cannot fail to have a most serious effect on the moral and spiritual life of the coming generation. It is obvious that when large numbers of people doubt the sincerity of ministers that churches themselves cannot be a source of power in the development of the highest and best in man.

The man-in-the-pew has the unquestioned right to maintain his own intellectual integrity, but if he permits his minister to consider him rather than the truth he is only contributing to a situation now serious enough. This is a matter which concerns not the minister alone but all who are interested in the maintenance of a realization of the worth of spiritual values.

A great deal of sympathy is being awakened to-day for men of so-called liberal opinion in orthodox churches. On the other hand those men who demand that these "liberals" state frankly whether or not they believe the creeds they profess to believe are called "heresy hunters." They are condemned as bigoted partizans.

I confess that I have some sympathy for these partizans. A

minister enters the fellowship of a church of his own free will. He enters not by coercion. He is not held in the church by force. He solemnly pledges himself to teach the faith and creed of the church of which he becomes a minister. Only on such a basis can any man honestly enter a religious fellowship. It seems plain that when the conditions on which a minister enters such a fellowship can not be maintained by himself it is his high and solemn duty to withdraw. No plea on the ground that he can do more good by boring from within or leavening the lump can alter this fact. A minister's first duty is to maintain the integrity of his own soul.

If a minister persists in saying one thing and believing another he lays the foundation for the contention that churches and creeds are not only breeders of insincerity but also that ministers are not to be trusted as teachers of the moral truth. He cannot blame men for quoting the lines from the Iliad which say, "Hateful to me, even as the portals of Hades, is he who hides one thing in his heart and speaks another."

If a minister replies that no man can believe the creeds as they are, then the important thing for him and for humanity is that he shall stand up frankly and say so in plain and unmistakable language.

He to whom the truth is true
Serves mankind the best.

Some time ago a young minister, whose doubts had brought him to the breaking point with his church, went with his heart's agony to one of its renowned preachers for advice. The older man said, "I'll tell you what I did. I read to the council the Athanasian creed. Then I interpreted it in scientific terms which no one understood and I got through all right." The young man went away with a heavy heart. Later he asked another minister how he managed to stay in his church. Quick as a flash came the reply, "I believe in freedom. I read the creed and interpret it my way and let the congregation interpret it its way."

It is a serious thing to debase the coin of the realm. But is it not a much more serious thing to debase by evasion and mental reservation spiritual values? If civilization depends upon the development of men of a high sense of honor, as I believe it does, it is then more important that ministers should be men of intellectual honesty than that they should be "liberal."

Those men who privately boast that they do not believe the ancient dogmas and the historic creeds which they publicly profess are not ministers of religion but ministers of death. He has a poor opinion of the truth who deems it necessary that he shall sacrifice the highest and best in him for its defense.

I am not passing judgment on any man. I am reporting what I have seen and heard. It is a matter which vitally concerns ministers and people. These are fundamental things. If it is whispered about that Reverend Doctor So-and-So does not believe what he professes to believe, he is giving excuse for every other man to dodge his moral obligation. Honesty is not a back number as one popular preacher said recently. Pragmatism has not ditched all moral values in the world. In a social order that ultimately rests on spiritual realities, that order can only be continued by loyalty to these realities. In this world no man is called upon to deny his own soul for the glory of God.

Only as ministers are willing to say frankly, but kindly and lovingly, the things they really believe in their hearts, can they have power to shape and mould the destiny of the race. To them is the high duty and glorious privilege of searching for and proclaiming the truth as they see it. Today in this world of agony and sorrow what men need more than all else is a renewed faith in the moral order and new realization of the reality of spiritual values. It is the business above all else of men who are teachers of religion to set themselves to this task. But to do this they must convince mankind that they cherish the truth above church and creed.

Careful analysis of the foregoing article shows that there are two distinct phases to its argument. These are closely intertwined, it is true, but they are nevertheless clearly to be distinguished. In the one the author states several general propositions and presents evidence in support of each. In the other he reasons from these general propositions to inferences or conclusions which he draws from them. These two phases of the argument illustrate the chief phases of logical reasoning.

Logic is the science of correct thinking. The term logic may be used in so general a sense as to include all the

topics considered in this volume, but it is usually employed in a more restricted sense to refer to what is often called "formal logic." It then means either the process of making generalizations scientifically (inductive logic), or the process of drawing from assumptions or from established generalizations inferences which are implicit in them but which are not obvious (deductive logic).

There are a great many facts which can not be perceived by observation and which, therefore, we can not learn either by the use of our own senses or by the testimony of others. We can observe that the Eskimo has a yellow complexion or that the president vetoes the appropriation bill, but we can not observe, for example, the effects of capital punishment upon the amount of murder. Criminologists are satisfied, however, that they have definite knowledge on this point. This is because in their research they have made use, not of scientific observation alone, but of scientific observation plus scientific reasoning, or logic. They have discovered, as have scientists who work in every other field of knowledge, that scientific reasoning is an important supplement to the power of observation.

It would be very desirable for every student of scientific method to take a thorough course in logic. Most of you can not do this, however. For your benefit, therefore, the following treatment of a few of the outstanding principles of logic is offered. Do not make the mistake of thinking that it is more than an introduction to the subject of logic in its relation to scientific method.

Before we analyze the problems of reasoning, we must take a little time to get acquainted with a number of logical terms. At the beginning we note that in all of our reasoning we deal with statements or assertions which the logician calls *propositions*. For purposes of analysis he divides these propositions into sundry classes. The most

general classification which he makes is twofold—into the so-called categorical and conditional propositions. The latter are in turn divided into two classes, hypothetical and disjunctive. For the present we shall deal only with categorical propositions, reserving the subject of conditional propositions for treatment near the end of the chapter.

Every unequivocal or *categorical proposition* asserts or denies something. It consists of two *terms*, or groups of words, united by the word “is” or “are,” which is called the *copula*. One term is called the *subject* and the other the *predicate* of the proposition. The predicate means a class in which the subject is included wholly, in part, or not at all. “All men are mortal beings,” “Some members of Congress are foreign-born citizens,” and “No evolutionist is a Fundamentalist” are examples of propositions.

For many centuries the student of logic has been largely concerned with the relation which diverse classes of phenomena bear to each other. Hence he deals only with propositions which classify their subjects. This classification is always made by means of the copula “is” or “are.” If, therefore, he is asked to work with any other kind of proposition he reorganizes it by putting it into this form, while at the same time keeping exactly its original sense. Thus, for instance, he changes the sentence, “Esperanto has been endorsed by the League of Nations” to read, “Esperanto is a language that has been endorsed by the League of Nations.” This procedure, though apparently awkward, is necessary for the purpose of obtaining a proposition which will reveal the class relation which subject and predicate bear to each other.²

² In recent years a “modern” logic had been devised. According to this logic, a proposition may have three or more terms, as “John gave a rose to Mary.” In this system, too, there may be propositions other than those in which a subject is asserted to have an at-

We next note that the student of logic customarily deals with but four kinds of proposition. These are named and illustrated as follows:

Universal affirmative: All radicals are rascals.

Universal negative: No radicals are rascals.

Particular affirmative: Some radicals are rascals.

Particular negative: Some radicals are not rascals.

The logician cannot deal with an *indefinite proposition*, such as "Trade unionists are class-conscious men." He must know whether the assertion refers to some or to all trade unionists, and he insists that it be stated definitely as a universal or as a particular proposition.

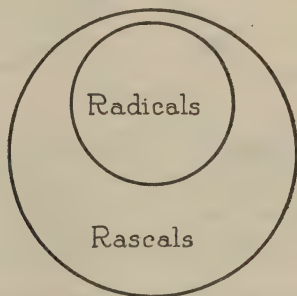


FIGURE I

These four types of proposition are usefully graphed by means of circles. To illustrate our universal affirmative proposition, "All radicals are rascals," we draw one circle and write in it the word "radicals." Since the proposition tells us that all "radicals" are members of a class called "rascals," we draw another and larger circle in such a manner that it entirely contains the circle marked "radicals" and label this circle "rascals" (Figure I).

tribute. Chief of these may be mentioned the *relational* proposition, e.g., "Oberlin is west of Cleveland," and the *valuative* proposition, e.g., "Some savages consider human sacrifice to be highly moral."

Our universal negative proposition, "No radicals are rascals," is illustrated by two circles labeled respectively "radicals" and "rascals." Since, according to our proposition, no "radicals" are "rascals," these two circles do not overlap at all (Figure II).

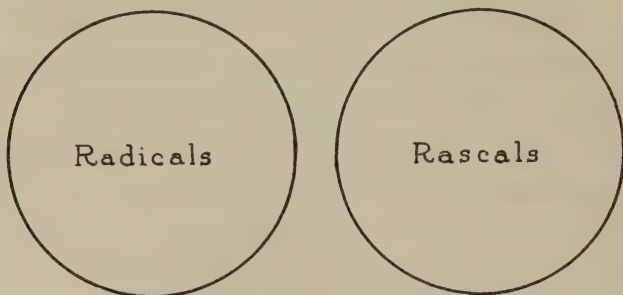


FIGURE II

The particular affirmative proposition, "Some radicals are rascals," is illustrated by two circles which overlap in part. The shaded part of the graph, which is common to both circles, is the part with which we are concerned (Figure III).

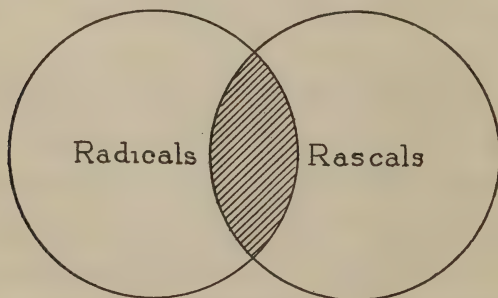


FIGURE III

Finally, the particular negative proposition, "Some radicals are not rascals," is also illustrated by two circles

which overlap in part. In this case, however, the part with which we are concerned is the shaded, outlying part of the circle "radicals" (Figure IV).

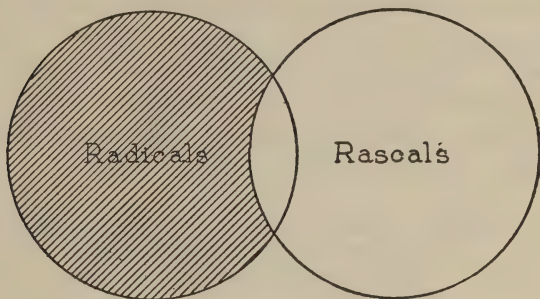


FIGURE IV

We are now ready to consider the nature of the aspect of logical reasoning which is called *deduction*. It consists in showing the relations of propositions to each other. The foundations of deductive reasoning are called premises. A *premise* is a proposition laid down, whether proved or assumed, that serves as a ground for argument or for a conclusion. Whether he is aware of it or not, in deductive reasoning the thinker usually has two of these premises. The more general one, which contains the predicate of the conclusion, or *major term*, is called the *major premise*. The more particular one, which contains the subject of the conclusion, or *minor term*, is called the *minor premise*. The two premises are logically related to each other by the fact that both have one term in common, called the *middle term*. The *conclusion* is drawn from the two premises. It consists of a copula and the two terms, other than the middle term, which are given in the premises. These three propositions, major premise, minor premise, and conclusion,

are called the *syllogism*. Note that every syllogism has three and only three terms.³

The three propositions of the syllogism are well illustrated by our legal procedure. Legal major premises are laws. Minor premises are findings as to particular facts, as determined by juries and judges and stated in verdicts. Conclusions are drawn from the law and the findings and are pronounced by judges in their sentences. The following syllogism will serve to illustrate all the facts which we have stated regarding logical terms.

Major premise: A person found guilty of grand larceny is a person who shall be imprisoned for not less than one or more than ten years.

Minor premise: John Doe is a person found guilty of grand larceny.

Conclusion: Therefore, John Doe is a person who shall be imprisoned for not less than one or more than ten years.

In this syllogism "a person found guilty of grand larceny" is the middle term, which occurs in both premises. The first proposition is the major premise because it contains the major term, or predicate of the conclusion, "a person who shall be imprisoned for not less than one or more than ten years." The second proposition is the minor premise because it contains the minor term, or subject of the conclusion, "John Doe."

³ Using the modern logic, the reasoner can readily combine relational and valiative propositions into syllogisms, as, for instance:

Oberlin is west of Cleveland.

Cleveland is west of Buffalo.

Therefore, Oberlin is west of Buffalo.

Detailed treatment of this subject is to be found in recent textbooks on logic. Cf. R. W. Sellars, *The Essentials of Logic* (Houghton Mifflin Company, Boston, 1924), pp. 85-89, 119-122.

This particular type of syllogism can be expressed in general terms as follows (Figure V):

Major premise: All X is Y.

Minor premise: All Z is X.

Conclusion: Therefore, all Z is Y.

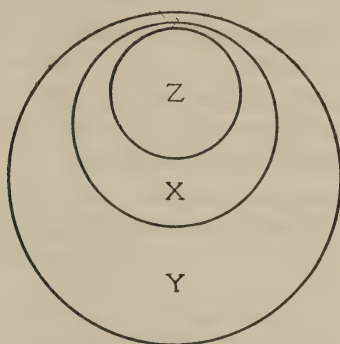


FIGURE V

It is well to note that while the major premise is usually the first proposition of a syllogism, this is not necessarily the case. The three propositions of a syllogism may be arranged in a variety of sequences.

Of course, it seldom happens that in our discussions do we throw our arguments into syllogistic form. We may take one or even both of our premises for granted, and therefore fail to express them. It is, however, possible to put all good deductive reasoning into this form, and in cases of doubt regarding the accuracy of the reasoning, it is very desirable to do so.

Now it must be perfectly clear that it makes a great difference whether one's premises are true or false. If one starts with a false major premise one can not logically reach a true conclusion, though formally his reasoning may be flawless. John Calvin announced his conclusion, for

instance, "Michael Servetus is a person who ought to be burned at the stake." This startling dictum, it appears upon investigation, was perfectly logically drawn from his major premise, "All persons guilty of teaching contrary to the Christian religion are persons who ought to be burned at the stake," and his minor premise, "Michael Servetus is a person guilty of teaching contrary to the Christian religion." You immediately protest, of course, that while the minor premise may be perfectly true, you can in no wise admit the truth of the major premise. You are therefore justified in denying the truth of the conclusion.

A false minor premise likewise leads to a logically valid but actually false conclusion, even though, as in the following case, it is used with a true major premise.

Major premise: All persons who are disloyal to the United States are persons who should be barred from sitting in the legislature of any American commonwealth.

Minor premise: All Roman Catholics are persons who are disloyal to the United States.

Conclusion: Therefore, all Roman Catholics are persons who should be barred from sitting in the legislature of any American commonwealth.

These facts are stressed because in reasoning men very frequently start with false premises, which of necessity lead them to false conclusions. Take by way of further illustration two examples of current reasoning, from the fields of education and of journalism.

Major premise: All teachings of falsehood are teachings which should be prohibited in the public schools.

Minor premise: The teaching of evolution is a teaching of falsehood.

Conclusion: Therefore, the teaching of evolution is a teaching which should be prohibited in the public schools.

Major premise: All persons who injure their community are undesirable citizens.

Minor premise: All journalists who give publicity to the fact that smallpox is prevalent in their community are persons who injure their community.

Conclusion: Therefore, all journalists who give publicity to the fact that smallpox is prevalent in their community are undesirable citizens.

We shall later have more to say on this matter of false premises.

It must now be noted that it is not enough to have valid premises in order to reach a valid conclusion. One may have perfect premises and yet reach a false conclusion because of faulty reasoning. Suppose, for example, that a man reasons,

Major premise: All stupid persons are persons who should not be admitted to this university.

Minor premise: Some women are stupid persons.

Both these propositions are true, but we can by no means accept the inference which he draws from them, namely,

Conclusion: Therefore, all women are persons who should not be admitted to this university.

In the foregoing case the reasoning is palpably false to us, but substitution of terms gives us another syllogism of exactly the same type which many Americans vehemently insist is valid, and which might deceive us if we were off our guard.

Major premise: All very immoral persons are persons who should not be proposed for membership in this club.

Minor premise: Some Jews are very immoral persons.

Conclusion: Therefore, all Jews are persons who should not be proposed for membership in this club.

It is well to note at this point a serious obstacle to fruitful discussion. It is found in diversity of premises of disputants. This is a difficulty which becomes immediately apparent and with which debaters can at once grapple, provided they take pains to state their premises. Frequently they do not do this, however, because they are in haste and feel that some premise is too obvious to state. One man says, for example, "Darwin Wallace is an evolutionist, and so he ought not to be allowed to teach in this college." This incomplete form of reasoning is called an *enthymeme*. In this particular case we have no difficulty in supplying the unstated major premise, "All evolutionists are persons who ought not to be allowed to teach in this college." Sometimes, however, an arguer omits both major premise and conclusion of his syllogism, and devotes all his efforts to building up a case in favor of his minor premise. This is likely to lead to confusion.

Suppose, for example, that two men are discussing the desirability of restricting the immigration of South Europeans to the United States. Formally or informally, consciously or unconsciously, the exclusionist makes as his major premise some such proposition as "The people of the United States is a people that is better off without relatively unassimilable elements in the population," but he does not state this premise. Instead, he proceeds to pile up statistics in favor of his minor premise, which he states, "South Europeans are a relatively unassimilable element in the population," with the intent presently to

point out his perfectly logical conclusion, "The people of the United States is a people that is better off without South Europeans in the population."

His opponent is meanwhile thinking in terms of a very different pair of assumptions. He does not take the trouble to state his major premise, "The United States is a country that needs a large supply of cheap, unskilled labor." He simply advances arguments in support of his minor premise, "South Europeans are the only available large supply of cheap, unskilled labor," for when this is proved he knows that his conclusion follows irresistibly, "The United States is a country that needs South Europeans."

Presently these two disputants discover that their discussion is getting them nowhere. To one man's evidence that South Europeans are unassimilable the other cheerfully replies, "Yes, but we can get them to work for two dollars a day." Their debate is as futile and indecisive as was the fabled conflict of the elephant and the whale, neither of which could reach the other. As long as neither one attacks the major premise of the other, the two can continue to argue without coming to any conclusion that will be acceptable to both of them. The only profitable thing for them to do under the circumstances is to discuss the validity of their major premises and the relations of those premises to each other. Let them agree, if possible, on the relative importance of a homogeneous population and of a large supply of cheap unskilled labor. This done, their discussion may become fruitful.

We are now ready to examine some perversions of the valid forms of deductive reasoning. Logicians tell us that there are nineteen combinations of our four types of proposition which lead to sound conclusions. Some of them are obviously valid, others are clear only to the experienced

logician. On the other hand, many false forms of the syllogism are likely to deceive the careless or inexperienced reasoner. Errors in close reasoning are the more frequent because persons who are satisfied with their conclusions are not likely to examine very carefully the grounds of those conclusions or the processes by which they are attained.

Logicians have classified and subclassified all the types of error to which deductive reasoning is liable, but for our purposes it is unnecessary to study this classification. We shall therefore simply consider the more important forms of error, one after another.

In the first place, there are errors of interpretation of the meaning of propositions. Frequently these errors rise when the syllogism is being organized. A proposition often appears in a form which is logically acceptable but which is not convenient to use in the chain of reasoning which we wish to develop. In that case its form can be changed, provided we follow certain rules of logic. It would be helpful to learn these rules, but it is not essential, provided we are careful to test the validity of what is done to the propositions.

The first of these logical changes is called *obversion*. It is substitution for an affirmative proposition of its negative equivalent, or substitution for a negative proposition of its affirmative equivalent. Thus for the proposition, "All rattlesnakes are dangerous pets" we can substitute the negative proposition, "No rattlesnakes are safe pets." Do not say, "All rattlesnakes are not safe pets," for this proposition is ambiguous. It might be interpreted to mean, "Not all rattlesnakes are safe pets," that is, "Some rattlesnakes are safe pets." For such a negative proposition as "Some clergymen are not educated men," we can say the equivalent, "Some clergymen are uneducated men."

This is all very well, but it will not do to say, "All trade unionists are men who wish better conditions of life for the workers," and obvert it to "All anti-unionists are not persons who wish for better conditions of life for the workers." Nevertheless this very argument, which commits what is called the fallacy of *illogical obversion*, is not uncommonly advanced and accepted by careless men. It is made because men fail to perceive that the original proposition, which they took to be "All trade unionists are all men who wish better conditions of life for the workers" actually asserted only that "All trade unionists are *some* men who wish better conditions of life for the workers." The omission of the word "some" causes the difficulty, and leads careless obverters to make the new proposition more general than the given facts warrant. Plainly, then, in dealing with this process of obversion we must keep our wits about us, lest we deceive ourselves or be deceived by others.

A second method of changing propositions is called *conversion*. It consists in interchanging the position of the subject and predicate of a proposition. Sometimes this change results in a true proposition. We can, for example, logically convert the proposition, "Some teachers are prejudiced men" to the proposition "Some prejudiced men are teachers." We can not, however, convert the proposition, "All pro-Germans are persons who wish the United States to keep out of the War" to read "All persons who wish the United States to keep out of the War are pro-Germans." This is a case of *illogical conversion*. It is caused by failure to perceive that the original proposition went so far as to assert only that "All pro-Germans are *some* persons who wish the United States to keep out of the War." The omission of the word "some" caused the difficulty.

We note next the *fallacy of accent*. This is committed

by a person who speaks nothing but the truth, if he so emphasizes certain points in his argument as to give a false perspective. This is a method very commonly used by skilled propagandists, as we shall see in Chapter XII when we note how war-time news is handled. The fallacy may also be committed by a person whose intentions are unexceptional. For example, one of the finest public school textbooks on civic problems not long ago contained the following statement:

Indeed, one of the chief causes of the lack of progress among the backward peoples of the earth is the fact that their wants are limited largely to their bodily needs. The famous Negro leader, Booker T. Washington, tried constantly to make the members of his race dissatisfied with their one-room log cabins so that they would change their shiftless ways and become industrious citizens. A noted traveler tells of an African Negro lad whose chief desire seems to have been to save enough money to buy several wives; that done, he would quit his job as guide and let them work for him the rest of his life. But one day he saw a steamer chair; immediately a new want arose. . . .

The casual white reader, be he prejudiced or unprejudiced against the Negro, is almost certain to take these assertions as simple statements of fact. The discriminating reader will see, however, that the statement tends to give or to strengthen the impression that Negroes are *as a race* shiftless and lazy. That this is no hypercritical view of the statement is shown by the outcome when this very paragraph was called to the attention of the educational authorities in a great city where the text in question was used in the schools. They recognized the validity of the protest and through their efforts the author removed the unfortunate accent by changing the paragraph to read:

Indeed, one of the chief causes of the lack of progress among the backward peoples of the earth is the fact that their wants are

limited to their bodily needs. They are usually satisfied with rude huts to protect them from heat and cold and, as long as they remain content with the bare necessities, they will make no effort toward acquiring more comfortable or beautiful surroundings. A noted traveler tells of a primitive tribesman whose chief desire seems to have been to save enough money to buy several slaves; that done, he would quit his job as guide and let them work for him the rest of his life. But one day he saw a steamer chair; immediately a new want arose. . . .⁴

The members of the next class of error to which deductive reasoning is liable are called *formal fallacies*, or violations of the rules of the syllogism. We have seen that all regular syllogisms have three and only three terms. It sometimes happens, however, that persons attempt to reason with a supposed syllogism of *four terms*. They may not discover their error in those cases where two of the terms are much alike. Then a false inference may be mistaken for a valid conclusion, as the following illustration shows:

All Christians are persons who believe in the Bible.

Mr. Schwartz is a careful student of the Bible.

Therefore, Mr. Schwartz is a Christian.

Our next fallacy is called the fallacy of the *undistributed middle*. It is illustrated by this syllogism (Figure VI):

All agnostics are evolutionists.

Some Methodist ministers are evolutionists.

Therefore, some Methodist ministers are agnostics.

The expression "middle term," you recall, refers to the term which appears in both premises. The expression "undistributed middle" means that the term is not distributed, or used in its fullest possible sense, that is, as a universal term, in either premise. In the case at hand nothing is affirmed of *all* persons who believe in evolution. We are

⁴ *Crisis*, Vol. XXXII, p. 115.

not told that all evolutionists are agnostics or that all evolutionists are Methodist ministers, but simply that some evolutionists are agnostics and that some are Methodist ministers. There is, therefore, no necessary logical linkage between the agnostics and the Methodist ministers.

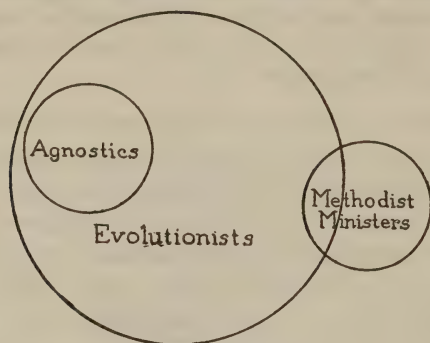


FIGURE VI

A related type of fallacy is called the *illicit process of the major term* (Figure VII). The major term in a syllogism is the predicate of the conclusion. The fallacy consists in using the major term in the conclusion in a more general sense than the premises warrant. For example:

All persons who know Greek are educated persons.

No graduates of agricultural colleges are persons who know Greek.

Therefore, no graduates of agricultural colleges are educated persons.

Our graph shows that there is nothing in the premises which says that graduates of agricultural colleges are not educated persons. They may be in the circle "educated persons," as well as outside of it, so long as they do not appear in the circle "persons who know Greek."

The last of this trio of slippery fallacies is called the *illicit process of the minor term*. The minor term is the

subject of the conclusion of a syllogism. In this fallacy the minor term is used in a more general sense than in the

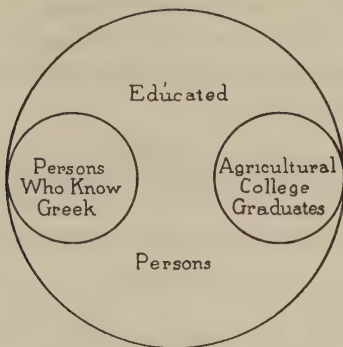


FIGURE VII

premises. This fallacy is illustrated by the following syllogism (Figure VIII):

All osteopaths are disbelievers in medicine.
 Some disbelievers in medicine are chiropractors.
 Therefore, all chiropractors are osteopaths.



FIGURE VIII

Once more our graph shows us that there is nothing in the premises which justifies our conclusion. Chiropractors

may be outside the circle "osteopaths" as well as in it, so long as they are in the circle, "disbelievers in medicine."

Our next fallacy is that of reasoning from *negative premises*. Such premises can lead to no conclusion whatsoever. The accompanying syllogism and graph (Figure IX) illustrate the fallacy.

No anarchists are persons admissible to the United States.

No persons of unsound mind are persons admissible to the United States.

Therefore, all anarchists are persons of unsound mind.

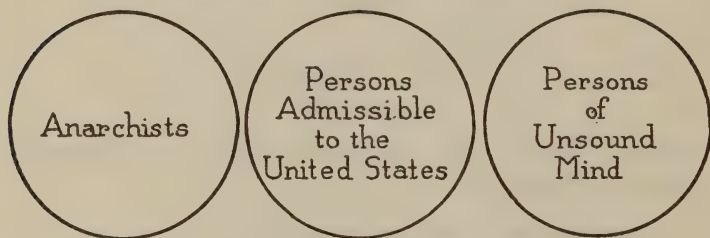


FIGURE IX

We turn next to the fallacy of *ambiguous terms*. It may be illustrated as follows:

All democrats are persons who favor equality of opportunity for men of all races.

Senator Tillman is a Democrat.

Therefore, Senator Tillman is a person who favors equality of opportunity for men of all races.

In this syllogism the source of the error is found in the fact that a person may be a Democrat in the sense that he is a member of the Democratic party and yet may be very far from a democrat in that of being opposed to privilege for favored groups. This is really a four-term syllogism.

We now turn from the formal fallacies to consider fallacies which have their origin in equivocation or presumption.

The *fallacy of composition* consists in asserting that because a fact is true of the members of a group when they are considered as individuals, it is true of them when they are considered collectively. We are told, for example, that railroad owners are benefited by greatly reduced taxes on railroads, that automobile owners are benefited by greatly reduced taxes on automobiles, that income taxpayers are benefited by greatly reduced taxes on incomes, and so on for all taxpaying classes. Therefore, it is argued, all taxpayers are benefited by greatly reduced taxes of all kinds. This argument, of course, ignores that fact that while all gain as taxpayers, all lose as beneficiaries of the services of the state which are no longer furnished when taxes are greatly reduced.

The *fallacy of division* is the converse of the fallacy of composition. It is committed when an arguer asserts that because a fact is true of a group as a whole, it is therefore true of all members of the group. Consider this example. "The establishment of a coöperative bookstore near the university campus will benefit the entire university community. Therefore the bookdealers of the university community will benefit." This is a palpable fallacy, but you will have to be on the alert lest you be deceived by others of the same kind which are not clear.

The *fallacy of accident* consists in reasoning that what is true in general is true under all conditions, though in reality the case at hand is a genuine exception. For example:

All persons who import wine into the United States are lawbreakers.

The French ambassador is a person who imports wine into the United States.

Therefore, the French ambassador is a lawbreaker.

The fallacy here, of course, is found in the fact that am-

bassadors are legally in a class by themselves, and that the houses in which they live are considered to be a little bit of the territory of their homelands. The French ambassador is therefore legally at liberty to import wine into the United States, that is, to the embassy.

The *converse fallacy of accident* consists in reasoning that what is true under some conditions is true in general. There are persons, for example, who argue that since some theatrical performances are socially harmful the theater should be abolished. They fail to note the very real difference between a vulgar burlesque show and a high class drama.

Begging the question consists in assuming the conclusion to be proved. This fallacy may be committed in any one of three ways. First, it may be committed by stating in one form the conclusion which is to be reached, and then arguing that since that proposition is true, the conclusion as stated in another form is true. For example, "It is wrong to flirt because it is not right to make love insincerely." Again, the question may be begged by assuming a general proposition, the validity of which is open to dispute as much as is the point at issue, and then arguing from it to the conclusion. To illustrate, "Capital punishment is wrong because it is always wrong to take life." Finally, the fallacy of begging the question appears in what is known as *reasoning in a circle*. In this case two propositions are used to prove each other. Thus a challenged proposition is frequently defended by a statement of the conclusion which has been drawn from it. It may be argued, for example, "The Book of Mormon is true because it is the word of God." "But how do we know that it is the word of God?" "Because it tells us so, and we know that it tells us the truth."

A related form of fallacy is called the *complex question*.

It consists in asking a question in which certain facts are implied to be true or false. The question is so framed that any direct answer entails the admission or one or more assumptions. This fallacy is the basis of such would-be witticisms as "Have you stopped beating your wife yet?" The fallacy also appears in questions which enumerate several possible answers and assume that all possible answers have been offered. Thus the anti-union employer may be asked, "Do you favor the open shop because you want to cut wages or because you want to speed up your workers?" Finally, the fallacy appears in simple questions which make a false or at least a doubtful assumption, for example, "Why are college professors more absent-minded than other men?"

The *irrelevant conclusion* is the last of our fallacies of presumption. Sometimes it is the result of unintentional error. It is also frequently used deliberately to conceal the weakness of a position by turning attention to something other than the point at issue. Perhaps it might then be called the "red herring fallacy"! In its most general form it is illustrated by the war-time argument, "We ought to hope that the French will beat the Germans. Lafayette helped us in the Revolutionary War." A very common form of this mistake appears also in the so-called "you're another" (*tu quoque*) form of argument. For example, "The socialists would do just what the capitalists do, if they had the chance!"

The "argument regarding the person" (*ad hominem*) has to do with the character and opinions of some person related to the question under discussion, but not to the question itself. It is used to show that the person mentioned is good or bad, trustworthy or untrustworthy; and from this fact a conclusion is drawn that is substituted for the proper one which should be found. Thus it is some-

times argued that music by Mendelssohn and Wagner should not be played in Christian churches, because the one composer was a Jew and the other a free-thinker.

The "argument to the vulgar mob" (*ad populum*) is aimed at prejudice rather than at reason. It is found in such an appeal as "Vote as you shot, against the South!" and "Do you want the Pope in the White House?"

The "appeal to ignorance" (*ad ignorantiam*) is an attempt to support some argument by averring that the opposite cannot be proved. For example, "There can no longer be any doubt that many American professors are in the pay of the Moscow Government. Not one who has been accused can prove that he is not!"

The "appeal to reverence" (*ad verecundiam*) is an argument whose apparent weight lies in the respect felt for an ancient custom or for a great man. It appears in three forms. First, argument is based on respect felt for ancient worthies, as when discussion of American relations to the League of Nations is carried on by the remark, "Washington warned us to beware of entangling alliances." Second, appeal is based on long-established practice. Said one elderly educator not long ago, "We have had compulsory military drill at this university for twenty-five years, ever since I have been here, and I don't see why we should give it up now." Third, the argument may be enforced by the name of some contemporary celebrity, as in the appeal, "It is pretty conclusive evidence of the error and harmfulness of the theory of evolution that Mr. Bryan, who was once secretary of state, has taken the field to campaign against the theory." This kind of argument, of course, is fallacious only when the person whose views are cited in evidence is dealing with something outside his field. To cite the opinion of a secretary of state on foreign affairs would not be called an appeal to reverence.

Many other forms of this sort of error might be listed and given names, for there is an argument which corresponds to every kind of bias. There are those which pertain to novelty, to patriotism, to religion, to class, and to race, to mention but a few. In the light of our discussion no one of them should require special explanation, however.

The *fallacy of objections* rises when it is reasoned that there are objections against a proposition, and that therefore it should be rejected. It fails, of course, to take account of stronger arguments which can be advanced on the other side. It is illustrated by such a statement as "A man is foolish to deposit his money in a bank because the bank may fail."

The "fallacy of the consequent" (*non sequitur*) is a fallacy in which true propositions are stated and then a conclusion is drawn which does not follow from the premises but which does not result from violation of the rules of the syllogism. It is illustrated by the argument often offered to a teacher by a student whose work has been unsatisfactory. "Professor," she says, "I ought not to have been given a grade of failure in your course. I read all the assignments, I took notes on all your lectures, I reviewed my notes before the examination, and I tried so hard."

This fallacy of the consequent is frequently committed by persons who assert that because certain arguments in favor of or against a proposition are true, therefore the proposition itself is proved or disproved. We hear it said, for example, "The theory of evolution is palpably false because no scientist believes that men are descended from monkeys."

Sometimes, too, the fallacy appears when it is assumed that because a conclusion is true or false, the argument in favor of it is true or false. An old French woman said, "I always wrap up a cut or burn with a clean cloth that I

have heated in the oven till it just began to scorch. Then the wound heals quickly. That is because the heat drives the devil out of the cloth. How do I know that it is so? Because my children do not get sore fingers as do the children of people who do not heat their bandages."

There now remain to be considered two special forms of deductive reasoning, together with the errors to which they are subject. First is what is called the *hypothetical syllogism*. Its major premise consists of an hypothetical proposition, its minor premise of a categorical proposition. In an *hypothetical proposition* there are two parts. One is introduced by some such word as "if," "assuming," or "supposing," which expresses a condition or assumption. This part is called the *antecedent*. The other part, which states the result, is known as the *consequent*. The rule for the correct use of the hypothetical syllogism is: *In the minor premise either affirm the antecedent or deny the consequent*. The following cases serve as illustrations:

If he is well next year, he will be a candidate.

He will be well next year.

Therefore he will be a candidate.

If whisky is an important medicine, it would be prescribed by most physicians.

Whisky is not prescribed by most physicians.

Therefore whisky is not an important medicine.

You will note that if the antecedent is affirmed, then, according to the major premise, the conclusion must be true. Likewise, if the consequent is denied, then, according to the major premise, the conclusion can be drawn that the antecedent is false.

In the use of the hypothetical syllogism error frequently rises from either of two sources. The first is *denying the antecedent*, as in the following example:

If Roosevelt were president, the government would not show indecision.

Roosevelt is not president.

Therefore the government will show indecision.

The fallacy here is obvious. It lies in the assumption that Roosevelt is the only man under whose direction the government would not show indecision. But the major premise did not exhaust the possibilities under which the government would not show indecision. The conclusion is therefore false.

The hypothetical syllogism is also misused when, as in the next case, we have a minor premise *affirming the consequent*.

If the people are all prosperous, many automobiles are bought.
Many automobiles are bought.

Therefore the people are all prosperous.

Here, of course, the fallacy lies in the assumption that general prosperity is the only condition under which many automobiles are bought. It ignores such other factors as class prosperity and thriftlessness. As in the previous case, the major premise did not enumerate all possibilities under which the consequent would be true.

The last form of deductive reasoning which we shall consider is the *disjunctive syllogism*. A *disjunctive proposition* appears in the form "A is either B or C." The disjunctive syllogism has a disjunctive major premise, a categorical minor premise and a categorical conclusion. It may take either of two forms, according to whether the minor premise is affirmative or negative. The following forms serve as illustrations.

A is either B or C.

A is B.

Therefore A is not C.

A is either B or C.

A is not B.

Therefore A is C.

Each form of the disjunctive syllogism is a valid mode of reasoning under certain conditions. The disjunctive syllogism with the negative minor premise is valid, if and only if the major premise has exhausted all possible alternatives.

The prisoner is either guilty or innocent.

He is not guilty.

Therefore, he is innocent.

We can not say, however, "The candidate is a Republican, Democrat, Progressive, Prohibitionist, or Socialist." He may be a Communist, a Single Taxer, or a member of some other party. We see, then, that it is most important to be sure that all possible alternatives have been exhausted when a disjunctive proposition is used. To do otherwise is to risk error.

The disjunctive syllogism with the affirmative minor premise is valid if, and only if, the alternatives in the major premise are mutually exclusive. Plainly it will not do to say,

This man is either a Christian or an anarchist.

He is an anarchist.

Therefore, he is not a Christian.

There is such a person as the Christian anarchist.

Before we leave this subject of deduction we must speak of means of testing the validity of syllogisms. Reasoners sometimes test their syllogisms by means of graphs. They graph their premises and examine the graph to see if the conclusion has also been graphed. If they can not draw circles to represent the premises without at the same time representing the conclusion, they infer that their syllogism

is valid. If, on the other hand, they can draw two or more different graphs, each one of which represents the premises, and at least one of which is not in harmony with the conclusion, they know that their syllogism is invalid.

It is easy for the beginner in logic to misuse this method of syllogism testing, because he may not recognize when his premises can be graphed in more than one distinct way. One might, for example, graph the premises portrayed in Figure VI as shown in Figure X and then falsely conclude that the syllogism is valid. It is therefore well for the inexperienced reasoner not to employ this method.⁵

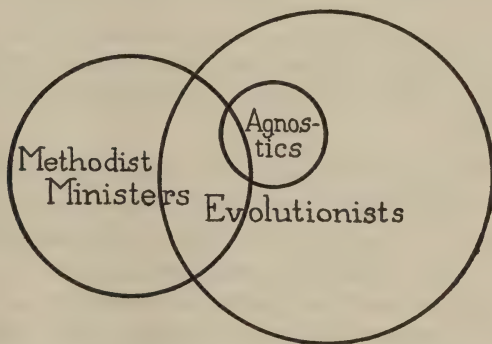


FIGURE X

Until we have become well grounded in logic the best way for us to test formal reasoning is to apply to it the rules of the syllogism. There are two rules to define the syllogism, five to state the conditions to which it must

⁵ A perfectly safe method is found in the use of the device described in Ray H. Dotterer, *Beginner's Logic* (The Macmillan Company, New York, 1924), Chapter V. This consists in reducing the syllogism to the hypothetical form, in which it can be tested readily. In view of the fact that this process can be made clear to the novice only by a somewhat extended explanation, it seems best not to attempt to treat it here.

conform if a valid conclusion is to be obtained, and two to give an amplified explanation of the others. These nine rules are as follows:

1. Every valid syllogism must contain three and only three terms, each of which appears twice in the syllogism.
2. Every valid syllogism must contain three and only three propositions.
3. The middle term must be distributed (used universally) in at least one of the premises.
4. No term which is not distributed in one of the premises can be distributed in the conclusion.
5. Nothing can be inferred from two negative premises.
6. If both premises are affirmative, the conclusion must be affirmative.
7. If one premise is negative, the conclusion must be negative.
8. Nothing can be inferred from two particular premises.
9. If one premise is particular, the conclusion must be particular.

A thorough examination of the reasons why these rules are true would require more time than we can devote to the subject, but it would be a helpful exercise for you to reason out for yourself why each one is valid.

Now that we have analyzed the technique of making inferences from data which we already possess (premises), we are ready to examine methods of obtaining and using data which we have to gather for ourselves. We shall begin this project by considering the problems of observation.

CHAPTER V

OBSERVATION

THE BALTIC FLEET'S BLUNDER¹

How near the Russo-Japanese War has come to involving all Europe was forcibly illustrated in the latter part of October [1904] by the blunder of the Russian Baltic fleet in firing on English fishing vessels in the North Sea. Before the fleet had started, the officers and men had been worked up to a pitch of almost hysteric nervousness by stories of the cunning, daring, and treachery of the Japanese. The personnel of the fleet had never been rated very high, since most of Russia's trained seamen were already in Chinese waters. The most extraordinary precautions had been taken to guard the fleet, while on its way, from any possible attack by Japanese torpedo boats.

For some unexplained reason, when off the Dogger Bank, the fishing-grounds of the North Sea, the Russian admiral had left the regular channel and changed his course, making a detour to the southwest. On the Bank was a large fleet of English fishing vessels from Hull, mostly steam trawlers, engaged in fishing. Without warning, on the night of Friday, October 21, the Russians opened fire upon the boats, with shot and shell, sinking one of them, killing two of the fishermen, and wounding others. The entire fleet, about forty in all, were steaming in line through the trawlers, and the first vessels had passed, after examining the fishing craft with their searchlights, when, without any warning, one of the warships fired six or more shells in rapid succession, the other ships joining in the bombardment, which continued for half an hour. The fisher *Crane* was sunk, and the *Gull* badly injured. The skipper and a deckhand on the former were the men killed. The facts of the attack were not known until the Sunday morning following, when the fishing fleet, bear-

¹ Editorial note, *Review of Reviews*, Vol. XXX, pp. 655-658, abridged.

ing the bodies of the men who had been killed, reached Hull. After the attack, the Russian squadron had continued on its course at high speed, and passed through the Strait of Dover without making any inquiry as to the damage done or attempting to rescue the men from the boats.

So much for the undisputed facts. The fishermen declared that although the night was wet and drizzly and it was impossible to see at a great distance, the Russian ships passed so close to the trawlers that the sailors on the former could not help seeing the fishermen cleaning the fish, some of the latter holding out fish in both hands to the warships as they went by. The trawlers, which in no way resemble war craft, and which were in established fishing waters, in the fishing season, burned the international signal lights for fishermen, and, after the first few shots, gave evidences of their distress and innocent character. It was but a few hours after news had reached Hull that all England was afire with indignation and warlike feeling. The action of the Russian admiral in not stopping to make amends for his blunder and rescue the fishing vessels in distress was especially condemned. Public demonstrations in Hull and in London, and the warlike tone of the British press, aroused the country in a few hours to a pitch of excitement not known since the Boer war.

After forty-eight hours of waiting, Admiral Rojestvensky's report was received by the Russian admiralty. The Russian admiral declared that at 1 o'clock on the morning of October 21 he had been attacked by two torpedo boats, supposed to be Japanese, which, appearing among the trawlers, between the two divisions of the squadron, seemed to discharge torpedoes. The Russians opened fire, and sank one of them. The officer in command of the section which fired on the fishing fleet declared that a cannon had been fired from an unknown vessel, that the trawlers failed to obey the Russian signals to disclose their nationality, and that one of the Russian vessels was hit by six shots, which wounded some of its crew and tore off the hand of a priest. The Russian officers further declared that they had received positive information of the equipment of Japanese boats in Swedish and British ports, and declared it to be their belief that these boats were disguised as fishing vessels. Indeed, they asserted that Japanese seamen and explosives were seen to have been taken on board of one of the trawlers before leaving Hull. The Russians were very nervous, and it seems that the Hull

fishermen were not the only ones who were attacked during the Baltic fleet's course through the North Sea. The Swedish steamer *Aldebaran* had been chased and fired at by a Russian cruiser, as was also a Norwegian steamer and a Danish torpedo boat. The German fishing vessel *Sonntag* had also been fired upon, sustaining considerable injury, and the German Government had filed with the Russian Government a demand for reparation.

Admiral Rojestvensky's report had been received, not only with incredulity, but with ridicule, in England. His statement that he was attacked by Japanese torpedo boats was regarded as a fabrication, or as evidence of his utter incompetency, particularly in view of the fact that four days had elapsed before his report was transmitted to his government. At the Board of Trade inquiry into the North Sea incident the fishermen stoutly maintained that they were alone when the Russians fired; that they had seen no foreign vessels except the Russians. The Japanese authorities also announced that there was not at the time, and had not been during the war, any Japanese war vessels in European waters; certainly, none had been seen by reliable witnesses. On the other hand, it had been reported that a Russian torpedo boat was missing when the fleet put in at Cherbourg. This, with the fact that one of the Russian ships had been hit and one of her men wounded, appeared to confirm the impression which had been gaining ground in European capitals, despite denials from St. Petersburg, that, either through misreading signals or because of extreme nervousness in the darkness and fog, the Russians had fired on their own ships.

Faulty observation, as this tale of the Baltic fleet reveals, may lead to extremely serious errors. It is therefore desirable to examine, as we shall do in the present chapter, the ability to observe, obstacles to good observation, and means of developing the ability to observe.

It is well to note here at the very beginning of our discussion what the word *observation* means. It is often used to mean simply "the act or power of perception." In the sense used in this book, however, it means the more comprehensive "scientific scrutiny of a phenomenon." In our discussion we shall treat only observation without the aid

of instruments, because the work of the social scientist has to be done without such helps, unless indeed statistics be considered such an instrument.

In order fully to comprehend the meaning of the word it is helpful for us to note two psychological terms, *perception* and *apperception*. Perception is the receiving of knowledge of things through the senses. Apperception, a term rarely used to-day, is the classification of what is perceived with other things perceived or remembered to have similar qualities. As used in this study, the word observation means apperception as well as perception. A classic illustration of the use of these terms is found in the case of the little girl who saw for the first time a potted fern. She called it a "pot of green feathers." There is no doubt that she had a tolerable perception of the plant, but her apperception was entirely wrong. Hence her observation was incorrect.

Ten essentials to the power of scientific observation will now be noted in some detail. Mention must first be made of the power to perceive. This capacity depends on the possession of reasonably efficient sense organs. It is based not only on the ability to see, but also on the power to perceive through the senses of touch, smell, taste, and hearing. Most persons observe chiefly by the sense of sight, but the vast realms of knowledge and power which can be conquered through the other senses are suggested by the work of the sightless Milton and Prescott, and the achievements of the blind and deaf Helen Keller. It would be unreasonable to suggest that cultivation of all the senses is prerequisite to effective observation, though keenness of any one of them may be helpful at some time. It is desirable, however, that every one who wants to be a good observer cultivate sharpness in hearing, not only that he may receive testimony accurately, but also that he may

be able to overhear the casual remarks and slight sounds which are often of great significance. Of course, no argument is necessary on behalf of the importance of the sense of sight. This simple matter of physical competency has to be stressed, however, because many persons do not realize that their senses are defective. They do not know, for example, that they are color-blind or nearsighted, and they accordingly attempt to observe matters which they are not competent to observe. The fact that large numbers of persons fall in the class of physically incompetent observers is revealed whenever a cross-section of the population is given a physical examination, as in the case of army conscripts or of public school children. At such times many persons who never suspected that they were not normal learn that their sight or hearing is seriously defective.

A second essential to good observation is being in a proper place to observe. Ordinarily one must be in the immediate vicinity of the thing which he scrutinizes, and under reasonably favorable conditions of light and quiet, if he is to be a good observer. This self-evident fact is frequently forgotten in time of excitement. In 1921, for example, after the Ohio-Illinois football game, thousands of spectators denounced the "blindness" of the officials, declaring that in a decisive forward pass the ball had touched the ground. The unprejudiced and indubitable testimony of the motion picture showed, however, that the ball had not touched the ground. It likewise showed that the observation of the thousands was inaccurate. Even those persons who had not been affected by partisanship had not realized that they had been too far away to observe accurately.

A third essential to observation is mental maturity. As we well know, children's vivid and uncontrolled imaginations, their limited backgrounds and their untrained powers of discrimination handicap them seriously. No wonder,

then, that they see pots of green feathers in ferns and lions in Newfoundland dogs and hear the voice of President George Washington when President Herbert Hoover broadcasts from Washington!

Our fourth essential to observation is mental normality. Feeble-mindedness, insanity, or dotage make adults unreliable and for most purposes incompetent observers. Likewise temporary mental abnormality, such as may be caused by hypnotism, alcohol or narcotics, fasting, or even extreme fatigue causes incapacity for observation. The resulting errors range all the way from minor inaccuracies to hallucinations.

In the fifth place, the capacity to observe includes all-round alertness, giving appropriate attention to all parts of one observation. Sir Michael Foster remarked: "Nature is ever making signs to us, she is ever whispering to us the beginnings of her secrets; the scientific man must be ever on the watch, ready to lay hold of Nature's hint, however small, to listen to her whisper, however low."² These hints often come at unexpected times and from unexpected places. One may simply by chance observe a fact of which his alert mind perceives or suspects the significance. In this manner came the suggestions which gave to Newton the law of gravitation, to Watt the steam engine, and to Pasteur the secret of organic decay. One may make a valuable discovery from a hint given by some one else's study. Darwin obtained such an essential hint regarding natural selection from Malthus' *Essay on Population*. Often persons have found valuable suggestions in such incidental sources as book reviews or the casual remarks of friends. It is impossible to enumerate all the sources from which important suggestions may come. These few illustrations will suffice

² *Report of the Sixty-ninth Meeting of the British Association for the Advancement of Science* (1899), p. 16.

to suggest their variety, however, and to indicate that he who would be a good observer must be ever on the alert.

Very numerous controlled experiments have shown the extent to which we fail to be alert and therefore to observe accurately. Their strikingly uniform results reveal that, even under normal conditions, many educated persons do not see much of what goes on in their presence. Professor Münsterberg reported, for example:

I stood on the platform behind a low desk and begged the men to watch and to describe everything which I was going to do from one given signal to another. As soon as the signal was given, I lifted with my right hand a little revolving wheel with a colour-disk and made it run and change its colour, and all the time, while I kept the little instrument at the height of my head, I turned my eyes eagerly toward it. While this was going on, up to the closing signal, I took with my left hand, at first, a pencil from my vest-pocket and wrote something at the desk; then I took my watch out and laid it on the table; then I took a silver cigarette-box from my pocket, opened it, took a cigarette out of it, closed it with a loud click, and returned it to my pocket; and then came the ending signal. The results showed that eighteen of the hundred had not noticed anything of all that I was doing with my left hand. Pencil and watch and cigarettes had simply not existed for them. The mere fact that I myself seemed to give all my attention to the colour-wheel had evidently inhibited in them the impressions of the other side. Yet I had made my movements of the left arm so ostentatiously, and I had beforehand so earnestly insisted that they ought to watch every single movement, that I hardly expected to make any one overlook the larger part of my actions.³

In our daily lives, as in the laboratory, our lack of all-round alertness often causes us to note only one aspect of what we are scrutinizing. The entertainer who diverts us

³ Hugo Münsterberg, *On the Witness Stand* (Doubleday, Page and Company, New York; Ernest Benn, Ltd., London, 1908), pp. 29-30; see also "Not Howard, but Harvard," *Nation*, Vol. CXXVII, p. 15.

with his "magic" depends for his success upon his power to make us concentrate upon a single phase of what we observe. The dishonest propagandist often does likewise. Frequently, however, men require no stimulus to a dull and harmful concentration upon only one aspect of a subject, as when they "observe" that vivisection is bad because it sacrifices animal lives or that luxurious spending by the rich is good because it furnishes employment to the poor.

To give appropriate attention to all parts of a subject is not necessarily to give equal attention to all parts. It is usually, indeed, to give very special attention to certain particular phases. These phases include the ones which, because of the observer's biases, might otherwise be neglected. Said Darwin on this point: ⁴

I had also, during many years, followed a golden rule—namely, whenever a published fact, a new observation or thought came across me, which was opposed to my general results—to make a memorandum of it without fail and at once; for I had found by experience that such facts and thoughts were far more apt to escape from the memory than favorable ones. Owing to this habit, very few objections were raised against my views which I had not at least noticed and attempted to answer.

This practice of Darwin can hardly be too highly commended as a means of insuring a thorough examination of all phases of a subject.

Our sixth essential to good observation is a capacity for reasonably accurate estimate without the aid of measuring instruments. This statement is of necessity lacking in precision. What constitutes reasonably accurate estimate under one set of circumstances may be quite insufficiently accurate in another. So, for instance, it might be considered reasonably accurate for a layman to estimate with an error not exceeding twenty per cent the velocity of a

⁴Source unknown, quoted in R. W. Sellars, *The Essentials of Logic* (Houghton Mifflin Company, Boston, 1924), p. 192.

moving automobile, while such an estimate would be quite inadequate in accuracy if it were the best that could be done by a candidate for the position of traffic policeman.

Münsterberg made many interesting experiments on ability to observe numbers, lapse of time, rate of motion, sources and quality of sound, and size and color of objects. These studies revealed that many persons are seriously deficient in their power to observe such things. Another illustration from his researches may well be given at this point. He wrote:

My next question referred to the perception of time. I asked the students to give the number of seconds which passed between two loud clicks. I separated the two clicks at first by ten seconds, and in a further experiment by three seconds. When the distance was ten, the answers varied between half a second and sixty seconds, a good number judging forty-five seconds as the right time. The one who called it half a second was a Chinese, while all those whose judgments ranged from one second to sixty seconds were average Americans. When the objective time was three seconds, the answers varied between half a second and fifteen seconds. I emphasise that these large fluctuations showed themselves in spite of the fact that the students knew beforehand that they were to estimate the time interval. The variations would probably have been still greater if the question had been put to them after hearing the sound without previous information.⁵

Comparison of these findings with observations made outside the laboratory reveals the same source of difficulty. Without special training few persons are qualified, even in the absence of excitement and prejudice, to form clear concepts of the number of persons in a crowd, the time which elapses between two events, or just what is said or done on a particular occasion. This point will be further illustrated in our next chapter.

⁵ Münsterberg, *op. cit.*, p. 22.

Closely related to the ability to make measurements with unaided senses is the ability to make fine discriminations, our seventh factor in the power of observation. Regarding this power Sir Michael Foster declared:⁶

Man, unscientific man, is often content with "the nearly" and "the almost." Nature never is. It is not her way to call the same two things which differ, though the differences may be measured by less than the thousandth of a milligramme or of a millimetre, or by any other like standard of minuteness. And the man who, carrying the ways of the world into the domain of science, thinks that he may treat Nature's differences in any other way than she treats them herself, will find that she resents his conduct; if he in carelessness or disdain overlooks the minute difference which she holds out to him as a signal to guide him in his search, the projecting tip, as it were, of some buried treasure, he is bound to go astray, and, the more strenuously he struggles on, the farther will he find himself from his true goal.

In view of the very great importance on many occasions of fine discriminations, it is most unfortunate that we often make discriminations where there is no ground for them, and fail to make them when they should be made. Our senses tell us, for instance, that the moon is smaller when at the zenith than when near the horizon. This is an illusion which does not deceive many of us, but we may not realize, as does the experimental psychologist, the many ways in which the unaided senses often do deceive.

Illustration of the importance of alertness and the capacity to make fine discrimination is found in the history of a great astronomical discovery. In 1821, Bouvard "was unable to fix an orbit for Uranus which would harmonize with the data of ancient and modern observations." This was a hint which Bouvard recognized, but he declared, "I leave it to the future to make known whether the difficulty

⁶ Sir Michael Foster, *Report of the Sixty-ninth Meeting of the British Association for the Advancement of Science* (1899), p. 16.

of reconciling the two systems results from the inaccuracy of ancient observations, or whether it depends upon some extraneous and unknown influence, which has acted on the planet." It remained for other observers to investigate the hypothesis that the difference might lie in a disturbing body beyond Uranus, and thus to discover the planet Neptune, in the year 1846. Astronomers had been given plain hints long before Bouvard. In 1795, for instance, Lalande "had made two observations of Neptune on May 8 and 10. Their failure to agree caused the observer to reject one and mark the other as doubtful. Had he repeated the observation, he might have noted that the *star* moved, and was in reality a planet." But Lalande failed to take the hint.⁷

An eighth element in the power of observation is a good general knowledge of the particular field in which observation is to take place. Knowledge and practice greatly increase the ability to observe. The untrained observer, for example, sees only a blurred confusion when he looks through a microscope at a prepared slide. After taking a course in histology he may look at that same slide again. He will then see great meaning in what was previously without significance. More than that, he will actually perceive things which in the first place he did not perceive at all. This point of the importance of knowledge and training needs to be emphasized. Many Americans recognize its validity with respect to certain fields, but fail utterly to note it with respect to others. Their attitude presents several gross inconsistencies. In the first place, although they acknowledge willingly their inability to observe such relatively simple things as a broken watch or a solar eclipse,

⁷ Walter Libby, *An Introduction to the History of Science* (Houghton Mifflin Company, Boston; George C. Harrop and Company, Ltd., London, 1917), Chap. XIV, *passim*.

their utterances indicate that they have implicit confidence in their ability to observe, through the eyes of the press, and to pass upon such extremely complicated questions as immigration policies, German reparations and the merits of the League of Nations. In the second place, they denounce vehemently persons not of their group who presume to observe matters such as they themselves observe and pass judgment upon without hesitation. They resent, for example, judgment of American institutions by any alien, for they consider that such a person cannot possibly have a knowledge of America sufficient to furnish a background for fair criticism. They themselves do not scruple, however, without knowledge of economics, sociology or political science, or study of the economic and social history of Western Europe, to spend a summer running over seven countries of the Old World and then return to appraise all European institutions.

Do not conclude from the foregoing paragraphs that we are advised not to observe till we have full knowledge and training. Such advice would be like the counsel given in the old jingle,

Hang your clothes on a hickory limb
But don't go near the water.

The only way to learn to observe is to try to observe, just as the only way to learn to swim is to try to swim. But just as the novice in swimming needs to bear in mind his own limitations and to proceed cautiously, so we must beware of over-confidence in our untried powers of observation.

Ninth, the power of observation includes knowledge of what one wants to see. One sees little except when he tries to see something in particular. The casual traveler to the Orient, for example, returns with a very hazy, superficial, and inadequate impression of China, because he travels

wanting to see everything in general but nothing in particular. On the other hand, such an experienced observer as E. A. Ross was competent to write a valuable book on *The Changing Chinese* after a few months of travel, because he had read very widely on the subject of his observation and because he knew just what he wanted to learn and was able to recognize the object of his search when he found it.

There remains to be considered one of the most important and most elusive of all essentials to scientific observation. For want of a more precise term we shall call it "mental poise." It includes two elements which must be examined, freedom from excitement at the time of observation and freedom from prejudicing habits. The fact that excitement frequently seriously warps and may even totally invalidate observation has been measured in controlled experiments. Of one of the most important Münsterberg stated:

A few years ago a painful scene occurred in Berlin, in the University Seminary of Professor von Liszt, the famous criminologist. The Professor had spoken about a book. One of the older students suddenly shouts, "I wanted to throw light on the matter from the standpoint of Christian morality!" Another student throws in, "I cannot stand that!" The first starts up, exclaiming, "You have insulted me!" The second clenches his fist and cries, "If you say another word—" The first draws a revolver. The second rushes madly upon him. The Professor steps between them and, as he grasps the man's arm, the revolver goes off. General uproar. In that moment Professor Liszt secures order and asks a part of the students to write an exact account of all that has happened. The whole had been a comedy, carefully planned and rehearsed by the three actors for the purpose of studying the exactitude of observation and recollection. Those who did not write the report at once were, part of them, asked to write it the next day or a week later; and others had to depose their observations under cross-examination. The whole objective performance was cut up into fourteen little parts which referred partly to actions, partly to words. As mistakes there

were counted the omissions, the wrong additions and the alterations. The smallest number of mistakes gave twenty-six per cent. of erroneous statements; the largest was eighty per cent. The reports with reference to the second half of the performance, which was more strongly emotional, gave an average of fifteen per cent more mistakes than those of the first half. Words were put into the mouths of men who had been silent spectators during the whole short episode; actions were attributed to the chief participants of which not the slightest trace existed; and essential parts of the tragi-comedy were completely eliminated from the memory of a number of witnesses.⁸

Outside of the laboratory we get precisely the same kind of erroneous observation under conditions of excitement. The following case will serve to illustrate both the influences of excitement and of fear. One autumn evening two teachers of sociology, who were well acquainted with the principles which we are now considering, were walking on a quiet residential street. Presently they were accosted by a young man. "I wish you would help me search that house for a burglar!" he exclaimed. "We have just come home and when we went into the living room we heard some one in the back of the house." Rather reluctantly the two teachers followed their guide into the home. There were no signs of an intruder in either the dining room or the kitchen. The searchers opened the cellar door and started down stairs. Suddenly they heard a distinct footfall on the floor below. Some one was in the basement! Precipitately they retreated upstairs, locked the cellar door, watched the cellar windows and telephoned for the police. The officers came. With drawn revolvers they searched every corner of the cellar, followed by a group of neighbors. No burglar was there! The police went away and the little company stood at the foot of the cellar stairs, animatedly discussing the episode. All at once a man ex-

⁸ Münsterberg, *op. cit.*, pp. 49-51.

claimed, excitedly, "There he is! I saw his arm move! He is behind that pile of boxes!" There was a hasty rush up the stairs. Then followed doubtings and questionings. It was very hard to believe that an intruder had been overlooked in the search, but no one felt sufficiently sure of his ground to investigate. Why take a chance with a burglar? The police were therefore called a second time, and a second time demonstrated that there was no marauder in the cellar! The original "footsteps" which caused all the trouble were presumably nothing but the gentle thumping of steam in a heating system which was just starting its winter's work! Such is the power of excitement and fear to cause faulty observation!

The second element in mental poise is freedom from prejudicing habits. These habits, which may be either with or without emotion, cause us to attribute in advance certain characteristics to the persons or things which we attempt to observe. Earlier in the present chapter, for example, it was noted that Lalande looked at a planet but falsely observed a star. The explanation of this error is found in Lalande's habits. He was accustomed to observe stars and not planets. His habit caused him to expect to observe a star, and he observed what he expected to see. In this respect Lalande was not different from the rest of mankind. To a large degree our observations are determined by our habits.

We must now note some of the ways in which habit affects our power of observation. Its influence varies greatly, depending upon the conditions under which we observe and upon the emotion with which we habitually see the apparent object of our observation. These points must be illustrated.

Whenever our observation is simple and easily or inevitably verified, habit does not easily warp it. When, for example, the air is filled with snowflakes in May, our habits

do not lead us to observe raindrops. Under other circumstances our habits may temporarily control our observation. We have all had the experience of perceiving that the railroad coach in which we were seated was in a changing relation to objects outside the window. Habitually we have observed that under such circumstances our train, and not the landscape, was in motion. Hence we have sometimes falsely observed that our train was in motion, when in reality its motion was only apparent, the illusion being caused by the real motion of a train on an adjacent track. In such cases we quickly learned of our false impression and no harm resulted. Finally, in cases where habit is very strong and spontaneous testing of observation is unlikely or impossible, erroneous observations may long stand as valid. This was the case with the ancients, for example, who long observed that the sun moved through the heavens and that the earth was motionless.

The influence of habit over observation is one of the bases of the modern war-time device of camouflage. Men have long had to struggle, however, against being deceived by imitation canned meats ("ham flavor"), imitation wool clothing, imitation life preservers, and imitation fireproof buildings, all so cleverly prepared that the layman cannot distinguish from the genuine article the imitation whose appearance insinuates that it is real. This same influence is also frequently used in dishonest propaganda, a subject which is treated in detail in Chapter XIII.

When we have emotional habits which are associated with peoples or institutions, we are especially likely to attribute in advance certain characters to the persons or things which we attempt to observe. Such emotions as sympathy and antipathy, hope and fear, do this frequently, as the following illustration will suggest. A little, white-haired man came out on the rear platform of the Pullman car. The

uninformed observer saw in him nothing that set him off from any other well-dressed stranger. But the word was passed around, "It is La Follette!" Then the bystander no longer saw simply a little man in a light suit, he saw Senator La Follette, the noble and fearless champion of the people against the "interests," or he saw La Follette, the demagogue who would destroy the Constitution for which the Fathers of the Republic died!

In some such manner as this, habitual bias and prejudice affect our observation of all important persons. We see them, not with the eye of the camera, but with that of the cartoonist. Thus, also, do we falsely observe events and institutions. And when we get well started we can see more terrors than does the small boy who lies awake at night, trembling at the bears and burglars that he hears prowling around his bed! Not long ago, for example, many persons saw the National Urban League as an instrument of Moscow to cause interracial strife,⁹ the Teapot Dome investigation as a Bolshevik move to discredit our government,¹⁰ and the child labor amendment as a Russian move in the direction of nationalizing American children!¹¹ Of course the villain in the case varies from group to group and from year to year. For most Americans in 1915 it was Germany, in 1925 it was Russia; next year it may be, as it has been before, the Japanese, the Catholics, or the South European immigrants. But for some persons it has always been and always will be the Jews, the Mormons, the capitalists, or the socialists!

⁹ Chicago Commission on Race Relations, *The Negro in Chicago* (University of Chicago Press, Chicago, 1922), pp. 574-575.

¹⁰ *New Republic*, Vol. XXXVIII, p. 243.

¹¹ James A. Emery, *An Examination of the Proposed Twentieth Amendment to the Constitution of the United States* (National Association of Manufacturers of the United States of America, 1924), pp. 20-23.

It is well to suggest at this point a few of the ways in which we can improve our powers of observation. We can, in the first place, benefit by practicing the most elementary kind of observation for ourselves. A familiar method is found in the Boy Scout exercise of looking into a store window for a short time and then turning away to record everything seen which can be remembered. He who makes this experiment soon perceives that he cannot remember many isolated phenomena, but that by classifying them he can greatly increase his power of memory. If, for instance, he looks into the window of a market and classifies together as poultry a display of fowl, ducks, and turkeys, and notes three kinds of fruit and five varieties of vegetable, he can remember far more than if he tries to fix things in mind simply as they catch his eye. A little practice of this sort is valuable. It will increase our powers of observation several fold. Naturally we cannot and should not try to see with our minds more than a tiny portion of what we see with our eyes, but it is well for us to learn by experience that even when we think we are observing carefully we fail to note more than a small part of what we actually see.¹²

We can, in the second place, benefit greatly by the experience of others. Appreciation of the importance of alertness, of making fine discriminations, and of the complexity of natural phenomena, comes from reading thoughtfully good detective stories, such as the *Adventures of Sherlock Holmes*, and from studying such works of keen observers in the natural and social sciences as Darwin's *Origin of Species* and Richmond's *Social Diagnosis*.

Our special problem is to become a good observer of

¹² Interesting exercises for developing the senses are found in Frank Channing Haddock, *Power of Will* (The Pelton Publishing Company, Meriden, Connecticut, 1907), Chaps. IX-XIII.

social phenomena. The method of procedure is obvious. Just as the bacteriologist acquires his power of observation by careful study under competent instructors, by long practice in examining prepared specimens under all kinds of condition, and by preparing specimens for himself, so we shall attain skill in discernment by appropriate instruction and practice. The best results will come from taking a course in a social science in which the methods of that science are emphasized and in which considerable laboratory practice is given. We shall thus get a knowledge of the field and learn by our own experience to appreciate the importance of the elements of observation which have been mentioned.

Reference must be made at this point to records and notes. No one has so nearly perfect a memory that he can afford to rely on it for the preservation of any essential thing discovered in his observation. An ever-present notebook is therefore almost necessary for successful observation. Every suspected clew and every discovered fact should be recorded at once, lest it be lost. We would probably get out of bed at midnight to pick up a fairy dollar which would not be on the floor in the morning. We ought to be equally prompt to lay hold of an idea which may be worth more than many dollars to us.

In our next chapter we shall take up some major problems of enumeration and statistics.

CHAPTER VI

DEFINITION, CLASSIFICATION, AND STATISTICS

POPULAR DISCUSSION ¹

We have before us [1915] a pamphlet entitled "The Anti-Prohibitionist's Manual," which purports to be a summary of facts and figures dealing with prohibition.

"Nail the prohibitionist down to facts," says the Manual, "and make him prove what he says."

When we analyze these facts, and the arguments that here adorn them, we wonder whether after all reason is a human faculty. In this windy propaganda and counter-propaganda, whatever seems to help out the case is truth and whatever helps the opponent is fallacy. A fact is not an event, quality or relation, but a mere irrelevant anything needed to fill up a gap in the thought. It is all an intellectual sideshow, in which we are invited to place our eyes to the peephole and look through upon the great world of reality. But truth as one sees her through this peephole is limp and pale.

Statistics are scattered like sugar over strawberries, and these statistics are fearfully compiled and wonderfully selected. There are miles of them, mountains of them; for the author seems to believe that one statistic is quite as good as another, so long as it is on his side of the argument. In fact the whole book is a pseudo-statistical homily against prohibition, an inverted "Ten Nights in a Bar-room" in statistical form.

Let us try to reconstruct the scene of this argument, as the stage detective would say. In the first place, prohibition would mean an enormous loss of revenue to the national, state and local governments, which deficit the reader in his capacity as taxpayer would have to make up. But the book does not seem to realize that the reader is already paying these taxes every time he takes

¹ Editorial, *New Republic*, Vol. IV (Aug. 14, 1915), pp. 35-36, abridged.

a drink, to say nothing of the cost of producing and serving the liquor, and the profits out of which wholesale liquor dealers contrive to issue edifying pamphlets.

Again, prohibition kills. Life somehow is preserved in alcohol, and it is the intemperately abstemious, like the good, who die young. "Our death rate as a nation," the Manual maintains, "is lower than any other nation of equal importance as a world power." In other words, "the temperate and general use of wine, beer and whiskey is productive of longevity." In the "wet" states and cities there are fewer deaths per thousand of the population than in localities living under prohibition laws. "Wet" New York has a low death rate, whereas "dry" Memphis, despite its negro population, has a large death rate. Prohibition also makes for insanity and crime. Wherever men may drink freely there is the least insanity. It is prohibition that drives to madness as it drives to pauperism. Moreover, nothing so breaks up a home as the inability to get drink on all occasions. In Kansas, which is "dry," the annual divorce rate is 286 per 100,000, whereas in idyllic and "wet" North Carolina it is only 75 per 100,000.

The more one reads this Manual the more evident it becomes that drink is an antidote to crime, while prohibition means the decay of all the virtues. Men who live in prohibition states are likely to be cruel to their wives; otherwise Kansas would not have a worse record for divorces granted on the ground of cruelty than Alabama, Florida and Virginia, all "wet" states. In the "wet" states also there is better church attendance and less juvenile delinquency. The shutting of the saloon puts the deadly revolver and the murderous dirk into the hands of criminals. Saloonless Kansas has more homicides in proportion to population than has free and easy New Mexico or freer and easier New York. The true seminary of virtue is in front of the bar above the sawdust and the spittle. So long as saloons are closed, men will murder, beat their wives, drive their children to crime, fall into pauperism, become insane, stay away from church, and fail to put their weekly wages into savings banks. Prohibition destroys the saving habit; Kansas has a smaller proportion of savings bank depositors than has Louisiana, Alabama, Kentucky or Wyoming. Even in Nevada, even in Arizona, where drink flows like water, men reel from the saloon to the savings bank, whereas in Kansas a blight falls upon the wretched pennies filched from the bar-keeper, and the ill-saved money mysteriously dis-

appears. There can be no true advance in morality, in sanity, in sense of family obligation, in attendance upon divine service, or in the quaint though unpicturesque habit of saving, without an unlimited expenditure of money and time in the saloons of the nation.

But this little book is not merely statistical. Occasionally it declines into poetry or soars high to anecdote. It is at times satirical. President Thompson of Ohio State University is quoted as saying that overeating will shorten life, whereupon the Manual slyly suggests that some one will now advocate a "total prohibition of food stuffs." And here is "glory" for you; here is a nice knock-down argument. "Is it not strange," asks the Manual, "that wet England produced a Shakespeare, wet Germany a Schiller and a Bismarck, wet America a Jefferson, a Washington, and a Lincoln, while prohibition Turkey never produced a single great man in all the centuries since Mohammed!" Poor Turkey is held in very low esteem. "The beer-drinking Bulgars were more than a match for the dry Turks." "The prohibition Turks trail at the tail-end of civilization." As for the great spirits of the ages, how can we think of them in a chill dilution of ice water? "All the giants of intellect," Gladstone, Asquith, Bunyan, Socrates, and Henry Clay were drinkers, even though some of them drank temperately. Washington and Jefferson, it seems, owned distilleries, and Abraham Lincoln, the emancipator of a race, ran a tavern in Salem.

This is the sort of argument which the Liquor Dealers' Association gives out its good money to print in order to "nail the prohibitionist down." This is the sort of intellectual food which men who may be presumed to know consider as palatable and nutritious to the mass of voters. At first glance one wonders how any sane person could pay out good money to publish the news that Socrates drank, and the beer-drinking Bulgarians smote the dry Turks. But is this tissue of nonsense and falsehood more transparent than are the campaign books which make our presidential contests so superlatively educational? Is it more stupid or vapid than half the contents of our magazines and newspapers, or the lazy, hazy, oral argument which we call public discussion?

This amusing editorial makes clear the manner in which many people can be deceived by faulty methods of attaining generalizations, principles or laws from particular facts. It does not, of course, constitute an argument against the

inductive method. On the contrary, it reveals a crying need for more knowledge of how to use that method. This knowledge we shall try to give in this and in the following chapter.

We all begin to reason by induction when we are small children. Little Willie pulls the tail of Felix, the cat, and is scratched. The same thing happens again when he pulls the tails of other cats. If Willie is more than a low-grade imbecile he then draws the induction from the facts which have been impressed upon him, "Cats are animals that scratch when they are roughly handled." As he grows older he makes many other inductions from experience. Repeated observations lead him to conclude that a nickel is a medium which can be exchanged for candy, that policemen are men who stop ball games in the street, and that substitute teachers are persons less to be obeyed than are regular teachers.

Throughout his life Willie will continue to make inductions. He will learn from his own experience or that of others that automobiles are quicker than street cars, that politicians are persons who are likely to forget pre-election promises, and that newspapers as sources of information are frequently unreliable. Among his inductions he will probably make many erroneous ones. He may falsely generalize from particular cases that Chinese are men who operate laundries, that Italians are laborers, that Jews are persons who own pawnshops and clothing stores. The way of the inductive method is beset with pitfalls. It therefore behooves us to examine carefully the nature of true induction and of the spurious inductions which are often mistaken for the true.

Logicians usually speak of six methods of induction. These we shall consider in some detail because you need to be able to decide if studies which are offered to you are

scientific. We shall begin with the *method of enumeration*, the simplest of the inductive methods. Before we develop this subject, however, it will be necessary to explain a number of important principles of definition and classification.

The problem of definition is forever intruding itself in our daily lives, in the form of two very common kinds of confusing expression. Such are equivocal terms like "un-democratic," "un-American," "imperialistic," and "socialistic," and also such expressions as "reasonable," "appropriate," "adequate," and "when advisable." Terms of these kinds are in common use, even in important documents. Thus in 1928, a party platform declared for appropriations for highways "commensurate with our needs," and pledged reorganization of the agricultural marketing system "on sounder lines." Words in the first of these two classes of terms are so ambiguous as to be practically meaningless. Those in the second class President Roosevelt aptly characterized as "weasel words," because they suck the meaning out of other words.

Terms of both kinds are often put into a statement precisely because they are vague. The statement may then please those impatient ones who want to possess a declaration of principle, and yet be so non-committal that no one has any particular objection to making it. This was the reason why, of course, when delegates to a League of Nations conference in 1927 drew up a declaration against "unreasonably high" tariffs, the American delegate was able to sign it.²

The foregoing paragraphs are not to be taken as a ban on the use of terms which are not specific. It is inevitable

² For a valuable discussion of an important ambiguous document see Kirby Page, "The Monroe Doctrine and World Peace," *World Tomorrow*, Vol. XI, pp. 403-408.

that such terms must be employed, even by critics of their use, as in the case of the man who analyzed party platforms to see what per cent of the policies in each were "presented in terms vague, general, ambiguous and not reasonably specific." It is, however, a warning that such terms are always to be scrutinized carefully when they are met. Certainly it is not safe to assume that they mean to others precisely what they mean to you.

Whenever we have to do with a scientific enumeration, it is quite necessary to know the precise nature of the data counted. Whenever, consequently, there is any reasonable doubt about the meaning of a term, it is essential to get its definition. In scientific reports such as those of the census, the exact meaning of any expression which is likely to seem ambiguous is commonly given. Definitions are often omitted in popular literature, however, hence the need of special caution in using such sources. One of the important signs of reliability in a work, we may note in passing, is the care with which the author defines his terms.

Often a word is familiarly used in several different senses. Then we need to be on our guard lest we falsely assume that we know the exact sense in which it is employed. Sometimes we are likely to demand definitions. When we are told, for example, that there were 4186 cripples in Cleveland in 1916, we probably inquire precisely what the term "cripple" means. Does it refer to maimed persons only, or does it include the paralyzed? When, on the other hand, we encounter statistics about the "deaf," the word may seem adequately specific, and we may accept the figures without question, till some one asks just what a deaf person is, anyhow. Is he a person who is "stone deaf," or does the term include also those who are somewhat "hard of hearing"? This warning question may never be asked, however, and because the need of definition does

not occur to us we may get and retain an altogether false idea of the facts.

Definition is essential, again, to show whether supposedly comparable classes are in truth fairly comparable. This is not always the case. Suppose, for example, that we are concerned with enumerations of the adherents of two religious denominations. We cannot compare directly the results of simple enumerations of members, because, among other things, membership in different denominations implies different things with respect to age. Thus, for example, the Roman Catholic Church counts as members the young, baptized children of its communicants. In 1916, twenty-five per cent of its total membership in this country was under the age of thirteen. The Protestant Episcopal Church, on the other hand, counts only those, who, at the age of adolescence or thereafter, have chosen to become members. In 1916 but one per cent of its membership was under the age of thirteen.³

The problem of definition is often a difficult one for the social scientist. Suppose, for example, that some one wishes to make a study of the incomes of American wage-earners. First of all he must define his terms carefully. He will therefore have to decide precisely what, for purposes of his study, the term "wage-earner" means. Is a wage-earner, for example, a man who works all of the time, a man who is employed part time, a boy who works after school every day, a boy who works regularly in vacations only, a boy who occasionally is paid by a neighbor for doing errands? This is an important point which must be carefully and satisfactorily defined before enumeration is made, otherwise the investigator will have his data challenged on the ground that they include individuals who should not be classed as wage-earners. The term "income" must also be

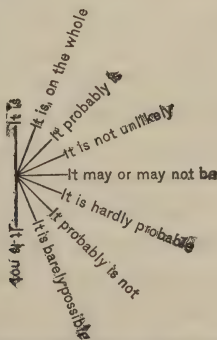
³ Bureau of the Census, *Religious Bodies, 1916*, Part I, p. 38.

defined. Does it include money only, or must allowance be made for the salesman's right to buy at a discount, the railroad man's privilege of free transportation for his family, the factory worker's opportunity to hire a company house at a nominal rental?

It is not enough to be scrupulously careful about the definition of nouns and verbs, however. Qualifying words must be handled with care in any scientific study. To say that a man has a large, a moderate, or a small income is very ambiguous, unless a standard of measurement is supplied, and even then a vague expression is inadequate.

It sometimes happens, too, that men quite innocently substitute one word for another of somewhat similar meaning. This may be a source of grave error. Professor Seward described the danger of the situation with admirable lucidity when he said: ⁴

Just as it makes a great difference at the end of a day's sailing whether a mariner has laid out his course northeast or northeast-by-east, so it is with us when we aim at an idea: we can afford no inaccuracy in the direction indicated by our words. It is, for example, not enough to be able to say merely that a thing is or is not so; we need to pick out the more precise direction from some such compass card as this:



⁴ S. S. Seward, Jr., *Notetaking* (Allyn and Bacon, Boston, 1910), pp. 48-49.

We now turn to consider scientific classification, beginning with its relation to definition. Classifications are commonly distinguished as *real* and *artificial*. "Real" classification is based on distinctions obtained by careful scrutiny of the data under observation, while "artificial" classification is based on some arbitrary distinction which suits the observer. The census classifications of "male" and "female" and "native born" and "foreign born" are "real." The distinction made by the census, on the other hand, between "rural" and "urban" groups, is distinctly "artificial." There is no natural reason why populations of twenty-five hundred and over should be considered "urban," while those which are smaller should be considered "rural." This distinction, indeed, is relatively recent. Early censuses rated as urban only places with a population of eight thousand or over.

One of the oldest and most common forms of classification is "dichotomy," or cutting a group into two classes. One of these is positive and one negative, as "Christians" and "non-Christians," or "adults" and "children" (non-adults). This form of classification is often inadequate. Because neither group is homogeneous, the division may fail to bring out facts of real significance. Thus a simple classification into rural and urban population may be inadequate in that it fails to reveal the important facts regarding, on the one hand, distribution of residents between the open country and small villages, and on the other hand regarding distribution of population between large and small cities. This distinction is important. There is much difference, for example, between increase in the rural population of Washington County, Colorado, and that of Cuyahoga County, Ohio. In the one case the population is truly rural, while in the other it is only nominally rural, being actually suburban to the great city of Cleveland.

How many classes must be given in order to bring out the facts of a situation? All depends upon the data. Plainly it will not do, in the desire to have but few classes in a study, to use the same term to designate things which are essentially different. This is precisely what is done, however, when Republicans and Democrats are enumerated in Congress. When the Republicans count their members they put in the same category both Norris and Moses, for example, though they are men who have very little in common and who rarely vote alike. This fact of unscientific classification explains why, at times when Republicans had a nominal majority in the Senate, they had real difficulty in passing party measures. In this case a truly adequate classification would distinguish at least four groups, progressive and conservative Republicans, progressive and conservative Democrats.

Good classification will not, as a rule, leave in the class "all others," a very large proportion of the cases enumerated. Tables with few classes, one of which is "all others," often conceal facts about as much as do those with but two classes. Hence a table giving the population of a state under the headings "white," "Negro," and "all others," while it might do very well for Vermont, would certainly be inadequate for California. In the latter case the "all others" class would lump indiscriminately several hundred thousand unlike Mexicans, Chinese, Japanese, and East Indians.

Racial classification of population requires at most but few classes, and so can easily be given in detail. A full classification, on the other hand, of the occupations of persons committed, let us say, to an insane asylum, would be very unwieldy. Under such conditions it may be proper that many minor classes be lumped under the head, "all others."

The thorough student often finds a detailed classification more useful than a simple one. He can combine for himself the elements in a detailed table, while if he is given a table with but few classes he cannot analyze the data given. On the other hand, it is true that much detail cannot be grasped readily, and the reader may easily fail to see the woods for the trees. The best scientific studies avoid both of these difficulties by giving both tables of summaries and tables showing details.

A good scientific classification conforms to the following rules:

1. The classification must be sensible.
2. There must be enough classes to cover all the data.
3. There must be no overlapping of classes.
4. There must be only one basis of classification.

The first of these rules is violated when inappropriate divisions are made. Students in a public school may properly be classified by age, weight, height, intelligence, and knowledge, but it would be absurd to classify them according to whether or not they have middle names.

In the second place, we note that classifications are frequently not exhaustive. Sometimes this does not matter for practical purposes. A newspaper summary of the vote in a municipal election does not need to include the names of all individual candidates which voters write in on the ballots. A religious classification, however, that groups Americans simply as Roman Catholics, Protestants, and Jews is seriously defective by reason of leaving out such important groups as Greek Catholics and Greek Orthodox, to say nothing of many minor groups. This is the fallacy of *incomplete division*.

Again, to consider the third rule, in classifications made by the novice subdivisions are frequently not exclusive. Sometimes this fact is soon discovered and no harm re-

sults, as in the following case. A student was investigating employment of college women. She prepared and submitted this classification:

WOMEN EMPLOYED IN DORMITORIES	
Waiting on table.....	42
Washing dishes	14
Setting tables	8
Answering bells	22
TOTAL	86

She was somewhat puzzled by her result, however, for she had schedules for only eighty-one girls. Reëxamination of her data revealed the fact that she had overlapping classes. Five girls who worked at both washing dishes and setting tables were listed under each heading. The problem was then quickly cleared up by a revised classification.

WOMEN EMPLOYED IN DORMITORIES	
Waiting on table.....	42
Washing dishes	9
Washing dishes and setting tables.....	5
Setting tables	3
Answering bells	22
TOTAL	81

The problem might also have been solved, although the nature of the report would then have been different, by simply changing the heading of the first table to read "Occupations of Women Employed in Dormitories" and stating in a note that some women had two jobs.

It must now be obvious that in examining studies of this kind, if one is to avoid error from overlapping classes, it is essential to note the precise nature of the items tabulated, and to make sure that the statistician has distinguished carefully between such things as employed women, classified by activities, and activities of employed women.

We now come to our last rule, there must be only one basis of classification. The fallacy of *cross division*, which is committed when this rule is not observed, is found in the accompanying table regarding registration of college students, which is taken from a university catalogue.

College of Arts	1,299	
College of Education	379	
Graduate School	41	
Summer Session of 1928.....	215	
Deduct the duplicate registrations in the academic year 1928-1929 and in the Summer Session of 1928	135	80
		1799
Irregular students—not counted by the College in its attendance totals for the year 1928- 1929	40	

It will be noted that the table classifies some persons according to the college in which they are registered and others according to the session of attendance. Truly scientific classification, on the contrary, would place all students in the summer session under the name of the college in which they were enrolled, or would rate every one as in attendance in the regular academic year or in the summer session. It will also be noted how, by the fifth item in the table, the statistician partially avoids the misleading which would normally result from his cross division.

In connection with this subject of classification it is well to observe that many social conflicts are understood better when they are regarded as resulting from different modes of classifying the same data. Take for example the controversy which developed a few years ago over the status of the East Indian immigrant. In the anthropologist's classification of races the East Indian comes under the

heading "white," while public opinion in America classifies him as "brown." This is an important practical distinction, for while whites were generally admissible to the United States as immigrants, brown folk were excluded by law. When the matter was carried to the Supreme Court that tribunal held that Congress had intended to classify according to popular usage, not according to anthropology, and that therefore East Indians were not admissible to the United States as immigrants.

Another common type of conflict regarding classification is found in the field of labor legislation. Take the case of the "Oregon Ten-Hour Law" as an example. This statute declared:

It is the public policy of the State of Oregon that no person shall be hired, nor permitted to work for wages under any conditions or terms, for longer hours or days of service than is consistent with his health and physical well-being and ability to promote the general welfare by his increasing usefulness as a healthy and intelligent citizen. It is hereby declared that the working of any person more than ten hours in one day, in any mill, factory, or manufacturing establishment, is injurious to the physical health and well-being of such person, and tends to prevent him from acquiring that degree of intelligence that is necessary to make him a useful and desirable citizen of the state.⁵

When a case involving this law was brought before the Supreme Court the plaintiff contended that the classification of wage-earners which was made by the statute was arbitrary and unreasonable, in that it forbade some wage-earners to work more than ten hours per day, while it left others free to work as long as they pleased. The State of Oregon, on the other hand, maintained as defendant that its classification was reasonable and justifiable as a health

⁵ Felix Frankfurter and J. C. Goldmark, *The Case for the Shorter Work Day* (National Consumers' League, 1916), Vol. I, pp. vii-viii. A second section of the law permitted a limited amount of overtime work, and extra work in case of emergency.

measure, in that labor in mill, factory, and manufacturing establishment is more dangerous to health than is labor in other places. In its decision, as is well known, the Supreme Court decided that the classification was reasonable and therefore upheld the constitutionality of the law. We are now ready to consider the subject of enumeration.

The *method of enumeration* is in common use on every hand. Nations and states have censuses periodically. The state counts the number of deaths, and classifies them by cause. The political scientist counts the voters who fail to cast a ballot. The economist enumerates the unemployed, classified by vocation.

Complete enumerations are most numerous when the numbers concerned are not very large. Counts of scores of thousands are relatively few. A sufficient explanation of this fact is that the cost of making such counts is prohibitive for most individuals and organizations. When to this reason is added the circumstance that many facts are hard to obtain because citizens see no ground for revealing their private affairs to investigators, it can be seen readily why full enumerations are not more common.

When numbers enumerated are at all large, errors are likely to creep in. An enumeration of the children enrolled in the public schools of a great city, for example, is practically sure to count some individuals who are not properly enrolled, is likely to omit some who should be counted, and is certain to contain errors regarding age and birthplace. Such mistakes are rarely sufficiently grave to vitiate the results of serious studies, however, and the person who knows of a few mistakes that have been made is not therefore justified in condemning the enumeration as worthless. If, however, many errors appear to have been made in a count, the question must of course be raised as to the worth of the results.

Sometimes light on the probable worth of an enumeration is furnished by knowledge of the persons who made the count. If they are careful, intelligent, honest, open-minded, and diligent persons, the presumption is in their favor. If, however, they appear to be careless, stupid, dishonest, or greatly biased, their counts have to be scrutinized with special care.⁶

After an enumeration has been made, various kinds of graphic device are often used to present a set of facts quickly and vividly. This graphic method is perfectly legitimate when properly used, as when the wealth of several countries is indicated by lines the length of which is in proportion to the wealth. We must be on the watch against misleading devices, however, and especially against the popular device of comparing numbers by pictorial diagrams, like a big and a little sheaf of wheat. The trouble with this device is that often one does not know whether the linear, areal, or cubic dimensions should be compared, and even when he is told he often finds it hard to compare on the appropriate basis. This is because the lineal dimension is usually the one intended to be compared, but we tend to compare objects not simply by height or length, but rather according to volume.

Suppose, for example, that the population of two countries, one of which is twice as great as that of the other, is shown by figures of two men, one of which is twice as tall as the other. The graph is likely to be seriously misleading, for we know that men have three dimensions, and the two-inch man rightly seems to us to be not twice, but possibly eight times as large as the dwarf of one inch. It is therefore well not to take pictorial graphs at their face value. Safety is to be found in considering the actual figures on which the graph is based.

⁶ Cf. *infra*, Chapters XI-XIII.

All other kinds of graph are generally much safer to use, but it is always well for the layman to make sure, before he takes any graph at its face value, that it has been made or endorsed by some responsible statistician.

The fact that a full enumeration is out of the question does not prevent us from getting adequate information on many subjects. This is done by the *method of sampling*, a device based on a mathematical principle derived from wide experience. This principle, sometimes called the *Law of Statistical Regularity*, tells us that moderately large numbers of items, chosen *at random* from among a very large group are almost sure, *on the whole*, to have the characteristics of the larger group. So, for example, if a blindfolded man were to select at random five hundred beans from a box containing a million beans, and were then to select another five hundred in the same manner, the average weight of the two samples chosen would be almost precisely the same, even though the individual beans were to vary considerably in weight. If, furthermore, one were to determine the average weight of all the million beans, it would be found to be essentially that of the average of either of the two smaller groups.⁷

This method of sampling is used constantly in thousands of different ways. Buyers examine a few crates of apples or strawberries and then purchase several carloads which prove to be substantially like those which they inspected. Engineers take samples of ore from a mine and predict with a high degree of accuracy the output of metal per ton of material excavated. Anthropologists test the sense acuity of a few score savages and safely generalize regarding the sense acuity of thousands of other savages whom they have not tested.

⁷ Wilford I. King, *The Elements of Statistical Method* (The Macmillan Company, New York, 1916), pp. 28-29.

The inductive syllogism which is used in the method of sampling is often stated as follows:

A, A', A'', etc., are an array of units drawn from among the N's.

A, A', A'', etc., are B's, to the extent of K per cent of their number.

Therefore, all N's are B's, to the extent of K per cent of their number.

This is indeed an inductive syllogism, but it is so inadequate as to be worthless, as the following concrete illustrative syllogism shows.

Tom, Dick, and Harry are boys taken from among the boys of this school.

Tom, Dick, and Harry are lame boys, to the extent of 66⅔ per cent of their number.

Therefore all the boys of this school are lame boys, to the extent of 66⅔ per cent of their number.

You see at once, of course, that the syllogism is probably not valid. It is true only if the three boys are typical of the school as a whole. In this case you are not satisfied to assume that any three individuals are a representative sample on which to base generalizations, though you might be content if the conclusion pleased you!

The true inductive syllogism is as follows:

A, A', A'', etc., are an array of *presumably representative* units, drawn from among the N's.

A, A', A'', etc., are B's to the extent of K per cent of their number.

Therefore, all N's are B's, to the extent of K per cent of their number, in so far as A, A', A'', etc., are representative units.

Note carefully, then, that unless the array of units studied is presumably representative, there can be no scientific induction.

The method of getting presumably representative units for a generalization is not difficult. One has only to follow

a few simple principles, the nature of which we shall determine by an examination of the method which must be followed in order to get an answer to the question, "What is the income of American wage-earners?"

In the first place, *evidence must be obtained from more than a single observation, a single person, or a single thing.* There is therefore no general significance in the fact that a locomotive engineer earned five hundred and two dollars in the last month, or that a bundle-wrapper in a ten-cent store received thirty-five dollars for her work in the same period. Either case may be quite exceptional. This point, though it seems obvious, must be stressed, because men frequently generalize from single cases. Even men of science, indeed, have been guilty, not only of accepting such errors when made by others, but even of making them themselves.

Again, *evidence should be obtained by more than one observer.* It is not safe to assume that an untried investigator is thoroughly honest, unprejudiced, and otherwise qualified to observe, and even the most sincere and experienced researcher may at times be lacking in some respect. While the observation of this rule is not absolutely essential, the value of testimony of even a proved investigator is greatly enhanced when it is corroborated by that of another responsible person.

Third, *evidence must be collected honestly.* That is, the investigator must not use a method of obtaining data which he knows will reveal some aspects of a situation and obscure other aspects, so that a distorted picture of the situation is obtained. This principle must be stressed, because men frequently neglect it, and thereby commit what Professor Ward called the "fallacy of statistics," or the "fallacy of superstition." This fallacy is committed when, for example, in support of the view that American wage-earners

are overpaid, is cited the fact that, let us say, bricklayers in Chicago are paid at the rate of twelve dollars per day, locomotive engineers at the rate of fifteen dollars per day, and plumbers at the rate of nine dollars per day, while nothing is said of the wages of any groups of workers except the most highly paid.

The need that evidence be representative further means that *evidence must be collected from more than a single source*. Wage statistics, for example, which are drawn from a single industry, a single city, a single state or even a group of adjacent states are probably not sufficiently typical to warrant generalization regarding wages in the United States as a whole.

In order to obtain representative facts, in the fifth place, *evidence must be assembled by some random or otherwise unbiased method*. For the United States as a whole, satisfactory wage statistics could be collected by selecting a large number of the most important industries in the country and then choosing typical centers from which to draw material. Thus, for example, one might select steel concerns, say in Pittsburgh, Pueblo, and Birmingham; clothing companies in New York City, Boston, and Rochester; textile factories in Lowell, Passaic, and Charlotte; automobile establishments in Detroit, Toledo, and Lansing; meat-packing plants in St. Paul, Kansas City, and Chicago; and so on for a large number of industries. Next, one would select for each chosen industry representative firms in each city; some large, some small, and some of moderate size. This might well be done by making lists of the firms of different sizes, and then choosing by lot from these lists the desired number of cases. Pay rolls of some or all of the important and typical departments of these firms would have to be studied. Finally, by methods which we need not go into here, it would be possible to make a

kind of average of all the figures that would be as acceptable a generalization as could be drawn from such diverse data.

Yet another point which must be noted in connection with obtaining representative evidence is that *the cases counted must be sufficiently numerous to warrant generalization*. In natural science the number of cases necessary as a basis for generalization may be very small. This is because of the essential uniformity of the material studied. It would be pointless, for example, to seek more certainly to demonstrate the law of gravitation by making thousands of laboratory experiments. When we are dealing with social phenomena, however, conditions are usually very different. It is not necessary for us here to consider how the social statistician determines what constitutes enough cases for a generalization, but it is essential to observe that often the number of cases must be relatively large. Five hundred nuts may give an adequate sample of a million nuts, but men are so much more variable than other units of investigation that in social studies samples have to be much more numerous than in the physical and biological sciences.

It may be said, in general, that the larger the number of individuals in the group under consideration, the smaller the proportion but the greater the absolute number of the persons who must be examined. A study of farmers' incomes, recently made by the Federal Department of Agriculture, included six thousand cases; a report on family incomes which the United States Bureau of Labor Statistics made was based on thirteen thousand families; an investigation of the wages of anthracite coal miners included some 48,000 individuals.

There is no formal rule which tells just how many samples should be examined for safe generalization. The prob-

able reliability of a sampling can be measured, however, by an important statistical device called the "probable error." The method of using this device will be considered later in the chapter. Meanwhile we need to say here only that generalizations from samples are not to be trusted unless the statistician has found that successive groups of samples have revealed substantially the same results.⁸

A conspicuous instance of failure to get representative data, by reason of neglect of the last two points, was found some years ago in a Senate Document, the so-called "Aldrich Wage Report."⁹ This study purported to be a scientific and exhaustive statement of the course of wages in the United States between the years 1840 and 1891. The data of the report were spread over more than twelve hundred pages of closely printed tables, and the reader was informed that "not only the extent of the investigation, but its wealth of detail must command respect."¹⁰ In reality, however, this supposedly thorough study was based on only 61 series of wage returns which began as early as 1840, and 543 series covering the period 1860 to 1891. These wage series were drawn from only 88 establishments in 22 industries. All were from states east of the Mississippi and north of the Potomac, and a majority of them were from the two states, Massachusetts and New York. Finally, many of the series were based on absurdly inadequate data. That of the earnings of salesmen of groceries, for example, was based on the course of wages in a single establishment in New Hampshire, in which, through much of the period under consideration, only a single salesman was employed!

⁸ Cf. Arthur L. Bowley, *An Elementary Manual of Statistics* (Charles Scribner's Sons, New York, 1915; Macdonald and Evans, London, 1910), p. 62.

⁹ Fifty-second Congress, 2nd Session, Senate Report 1394, Parts 1-4.

¹⁰ *Ibid.*, Part 1, p. 110.

This study is treated in this detail because it is well to see just how, for political purposes, statistics can be assembled and presented. This report was once a formidable partisan weapon, being used extensively as evidence of the success and wisdom of Republican policies.

Before we leave this point we must note another common form of generalization which is unwarranted because of insufficient data. It is that of basing percentages on very few cases. When a generalization is made in this way it possesses an unjustified appearance of exactness, which is frequently very deceiving. Of course you know at once that something is wrong when you are informed that two hundred per cent of the Syrians in Wallingford, Connecticut, are criminal, and you are not convinced of the accuracy of the statement when you learn that the one Syrian in the community was twice convicted in twelve months. You may be quite misled, however, if you are informed that fifty per cent of the Greeks in a town are criminal, and you are not told that the generalization is based on six cases. It is therefore important for you to know on precisely what data a generalization is based, and you are quite justified in rejecting as inconclusive, and very possibly insignificant, any percentage which is based on less than one hundred cases.

Our seventh point is this: *Data must be chosen at typical periods.* Plainly, little light would be thrown upon the wages of salespeople by examining pay rolls of the week before Christmas. There are, moreover, years of high, low, and average earnings, and allowance must be made for this fact before one generalizes from wages of 1919, 1921 or the current year.

Finally, for many purposes, *cases should be collected over considerable periods of time*, if inductions are to be really significant. However meaningful they may be for

indicating wage rates, wage studies which are based on a single week or even on several months are quite inadequate to reveal the facts regarding earnings. This is because most workers suffer considerable unemployment, an element which makes yearly earnings very different from a weekly wage multiplied by fifty-two.

The difficulty of getting representative samples for one interesting form of social generalization is well illustrated by the straw ballot which the *Literary Digest* has conducted since the War. In 1920, the *Digest* polled some 600,000 voters in six pivotal states. In each state returns gave Harding a large plurality over Cox. Later comparison of the straw vote with the vote cast on election day showed, however, that the straw vote overestimated by some 10 per cent the proportion of the ballots cast for the Republican candidate.¹¹

In 1924, the *Digest* sent out some 15,000,000 ballots, of which 2,400,000 were returned. On this basis the magazine predicted that Coolidge would get 56.50 per cent of the popular vote, and foresaw that he would carry at least twenty-eight states. Actually Coolidge polled 55.21 per cent of the vote, carried all but one of the states which the straw ballot gave him, and won only one state which the straw ballot did not give him.

In spite of these facts, however, the poll was far from accurate. According to the *Digest's* prediction, Coolidge, Davis, and La Follette would receive popular votes in the ratio of 57, 21½ and 21½. Actually the ratio was 54½, 29 and 16½. The Davis vote had been underestimated by 2,200,000, while the La Follette vote had been overestimated by 1,400,000. In the straw vote, in almost two-thirds of the states outside the Solid South, the proportion of the ballots given Davis was distinctly less than what he

¹¹ *Literary Digest*, Vol. LXXXII, No. 2 (Oct. 11, 1924), p. 6.

actually received. The vote credited to Davis in these states ranged from some 80 per cent to less than 25 per cent of what he received on election day.

In 1928 in the *Digest* poll, Hoover had a commanding lead. In the midst of the campaign Fabian Franklin pointed out, however, that if the same degree of error prevailed in that year as in 1924, properly corrected figures would indicate a Democratic victory in enough large, pivotal states to make doubtful the election of Hoover. He added, at the same time, that there was no ground for predicting whether the error in the straw ballot would be greater or less than it was in 1924, and that since the election was very closely contested in many states the straw poll was useless as a basis for prediction.¹²

At the end of the straw vote Smith had received 32.1 per cent of the vote cast for the two leading candidates. Actually, however, the voters gave him 40.8 per cent of the ballots cast at the polls. His vote therefore exceeded that shown in the *Digest's* ballot by 27.1 per cent, ranging from a very small excess in some states to 51.7 per cent excess in Massachusetts and 62.8 per cent in Rhode Island. He carried at the polls the states of Arkansas, Massachusetts, and Rhode Island, which were not given him by the straw ballot. In the light of these three experimental polls, then, it is clear that, though straws may show the direction of the wind, straw polls can serve as a basis of prediction of outcome only when an election is not closely contested.

Before we leave this subject it is interesting to see if we can find a reasonable hypothesis to account for the consistent tendency of the *Digest* poll to favor the Republican candidates. In 1928 the poll consisted of some 2,770,000 votes, a number sufficiently great to be satisfying,

¹² New York *Times*, Oct. 15, 1928, p. 24, col. 7; Oct. 20, 1928, p. 18, col. 7.

provided the voters were chosen in a random or unbiased manner. On this point the editors of the *Digest* wrote: "The present huge polling list is the work of a number of years, founded originally on the telephone books of all parts of the country, expanded, with the elimination of duplications, by the lists of automobile owners of the country, and, in many places, by registration lists."¹³ Now it must be obvious that the groups of persons who have telephones or automobiles do not, on the whole, include the humblest classes in the population. Since it is a matter of common knowledge that the humblest classes do not, on the whole, vote the Republican ticket, we have a partial explanation of the observed bias, which was no doubt unintentional on the part of the *Digest*.

Again, in 1928, the magazine sent out over nineteen million ballots, of which only 14.6 per cent were returned. We may well believe that, of those who received the ballots, the humblest people would, on the whole, be more suspicious, less aware, of the significance of the poll, and therefore less inclined to return their ballots. The more prosperous, and on the whole the better educated groups, largely Republican in sentiment, would, on the other hand, be more inclined to return their ballots.

We have now concluded our consideration of the method of sampling and of its difficulties. It is a method, as we have seen, which is used simply to help get a picture of simple facts. It does not throw light on causes or effects. We must therefore examine other inductive methods to learn how causes and effects are discovered. This we shall do in the next chapter. Meanwhile we must note a number of other matters pertaining to the use of statistics.

In addition to our eight rules regarding the method of sampling, there are three rules which apply both to that

¹³ *Literary Digest*, Vol. XCIX (Nov. 3, 1928), p. 5.

method and to the other phases of the inductive process which we are to consider. These are as follows:

In the first place, *evidence against which there is important counter-evidence cannot be accepted as decisive*. Conflict of evidence often indicates that the facts at hand are inadequate to justify any conclusion. This is most frequently true in cases of opposing testimony of responsible witnesses. Under such circumstances in a lawsuit the verdict would of course tend to go to the side with the greater number of responsible witnesses, provided it appeared at the trial that each side had had full opportunity to present its view of the affair. The scientist is not satisfied with such a rough and ready method of getting at the truth, however. He does not need an immediate decision. In a case of conflicting evidence he therefore seeks additional facts before attempting to arrive at any conclusion. This, of course, is what would have to be done if wage data from supposedly reliable and comparable sources should show considerable discrepancies.

Before we leave this topic we must note that not all cases of conflicting evidence indicate the need of additional information. One side may be thoroughly scientific and the other may be quite the contrary, as in the case of differences of opinion regarding the efficacy of amulets in warding off disease. The mere fact of lack of agreement in such cases in no wise indicates the need of further research on the subject. It simply indicates that one side is quite unscientific. If one is to arrive at the conclusion that his opponent's view is unscientific, however, he must be sure to attain this conclusion by scientific means.

In the second place, it is well to *hold negative evidence as of little worth*. It is sometimes argued that because an attempt to prove a proposition is unsuccessful, the propo-

sition is therefore proved untrue. But such "negative evidence is indeed of little value, unless it can be shown that it covers the whole ground. . . . It is therefore more difficult to disprove a proposition by negative evidence than by proving the truth of its contradictory."¹⁴ It was long held by men of science, for instance, that because all attempts to prove the existence of demons were fruitless, disease could not be caused by evil spirits. This negative evidence was far less effective in destroying superstition, however, than was the positive and contradictory evidence in the discovery of bacteria and the part which they play in causing disease. Very frequently, moreover, negative evidence turns out to be no evidence at all. Negative evidence, for example, that Czechs were inferior in mental capacity to Nordic Americans was alleged to be found in the fact that few of them had proved their ability by obtaining a higher education in this country. This evidence was seen to have no significance, however, when the number of successful Czech college students in this country became large in proportion to the number of Czech residents.

Finally, it is important to *hold incomplete evidence as incomplete proof*. It is not unusual for persons to hurry to conclusions before they have all essential facts. Professor Fairchild admirably revealed our tendency and our hazards in this regard when he wrote:

One of the commonest errors of writers on sociological topics is to allow too little time for the action of social forces. We are inclined to think that the effects of a certain social phenomenon, which we are able to detect in our lifetime, are the permanent and final results. We forget that these matters may require many generations to work themselves out. No better illustration of this could be asked than that furnished by the case of the Negroes

¹⁴ Frank Cramer, *The Method of Darwin* (A. C. McClurg and Company, Chicago), p. 83.

in the United States. The importation of these people began many generations ago. To our ancestors it undoubtedly seemed a perfectly natural thing to do, and for centuries it did not occur to anybody to even question its rightfulness or its expediency. When objections began to be raised, they were feeble and easily put aside. But at last, the presence of this peculiar class of people in the country involved the country in a terrible and bloody conflict, which worked . . . injury to the American stock by the annihilation of the flower of southern manhood, and left us a problem which is probably the greatest one before the American people to-day—one which we have hardly begun to solve.¹⁵

In the light of these facts regarding incomplete evidence one may well ask how it is possible in a study of social matters to come to any conclusions on which action can be based, since evidence is seldom all in till the subject has ceased to be a live issue. The obvious answer is that one may base a tentative conclusion upon incomplete evidence, and may base action upon the tentative conclusion. He must be so keenly aware of the resulting limitations of his conclusions, however, that he will aggressively seek further light and will never consider his conclusions to be final so long as additional significant information can be obtained.

There remains yet to be considered one other phase of statistics. This is what is known as *correlation*. Very frequently men observe that events or conditions appear to occur together, or, to use the technical term, are in "association" with each other. Sometimes this association is purely fictitious, as in the case of the alleged relation of the extent of gum chewing to degree of whiteness of teeth. Often, however, there is a real association. We know, for example, that, in general, the greater the age of the child, the greater is his knowledge, and the taller a man is, the

¹⁵ Henry Pratt Fairchild, *Greek Immigration to the United States* (Yale University Press, New Haven, 1911), pp. 236-237.

greater is his weight. When phenomena vary thus together, the statistician expresses their relation by saying that they are correlated with each other, or that there is correlation between them.

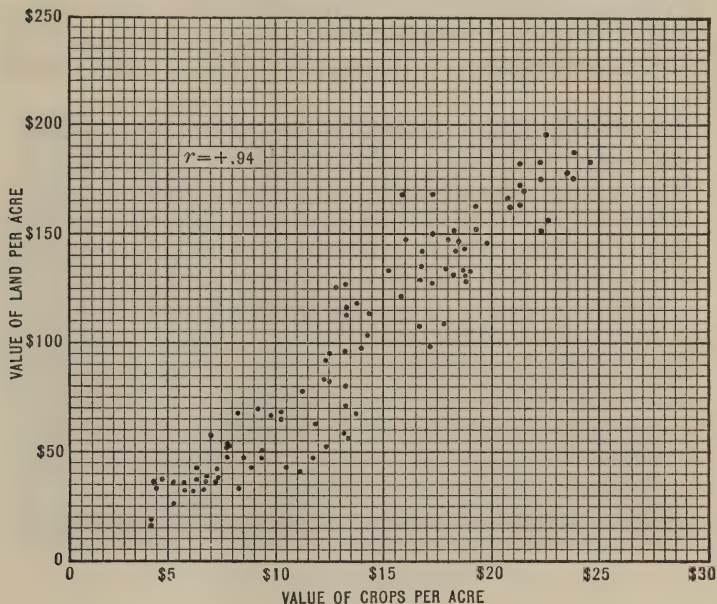


FIGURE XI

Average value of crops per acre and average value of land per acre in the counties of Illinois (Cook and Lake omitted), 1925. (Data from United States Census of Agriculture, 1925, Illinois Bulletin.)

The four accompanying "scatter plots," prepared by Professor Frederick E. Croxton, will clarify this idea of correlation. Figure XI graphs the association of certain facts pertaining to farms in the counties of Illinois (Cook and Lake omitted). The data correlated are "Average Value of Crops per Acre," and "Average Value of Land per Acre." In the preparation of such scatter plots and of

other studies in correlation, one set of data is called "X" and the other is called "Y." Data "X" are entered on the plot according to the scale on the horizontal line, or axis; data "Y" are entered according to the scale on the vertical axis. Each county is represented by a dot. Thus a dot to represent McLean County appears at the point opposite \$22.59 on the horizontal or "X" axis which is also

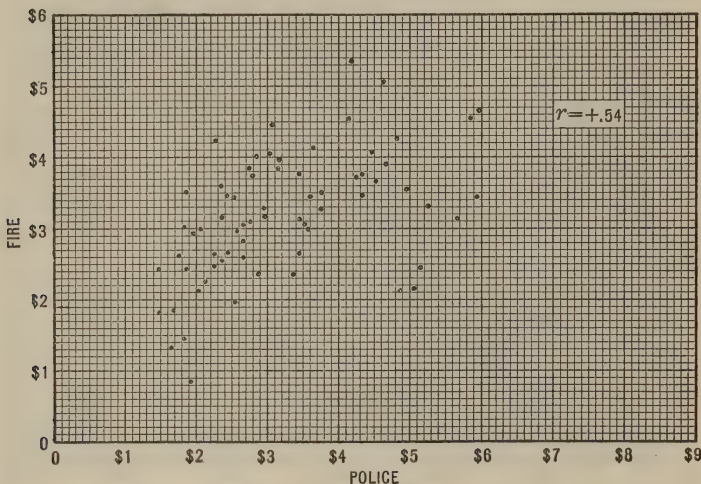


FIGURE XII

Per capita expenditure for police and for fire in the cities of the United States of 100,000 inhabitants or more, 1925. (Data from *Financial Statistics of Cities, 1925*, p. 318 f.)

opposite \$195.25 on the vertical or "Y" axis. This point was chosen because McLean County had an average value of crops per acre of \$22.59 and an average value of land of \$195.25. In like manner points were entered for all the counties studied.

In Figure XI the dots appear in a long, narrow belt, rising from left to right at an angle of about 45 degrees. This distribution shows that the greater the value of crops

per acre, the greater the value of land. That is, the two sets of data, "X" and "Y," are correlated "positively." The less such a set of dots tends to scatter, the greater is the correlation.

Figure XII shows the association of per capital expenditure for police and fire, in American cities of 100,000 population or over. The plot indicates that there is considerable

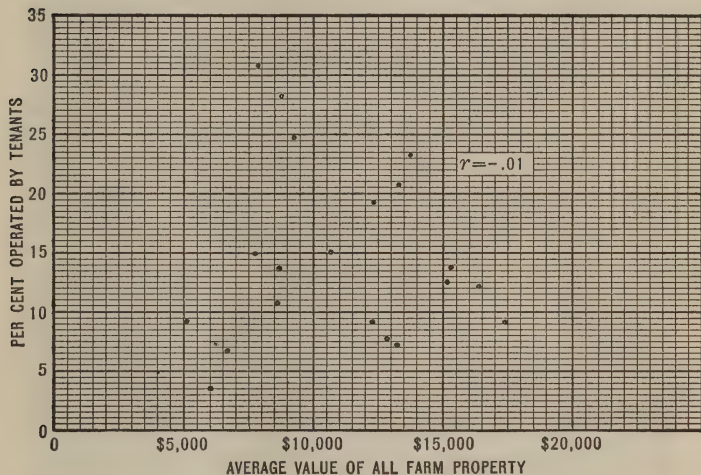


FIGURE XIII

Average value of all farm property per farm and per cent of farms operated by tenants in the counties of New Jersey (Hudson omitted), 1925. (Data from United States Census of Agriculture, 1925, New Jersey Bulletin.)

correlation, though since the dot belt is not as narrow and well defined as in Figure XI, it appears that the correlation is not as great in this case.

Figure XIII graphs the relation of "Average Value of All Farm Property per Farm" and "Per Cent of Farms Operated by Tenants" in the counties of New Jersey (Hudson omitted). Here the dots are scattered all over the plot.

There is no sign of a belt, and there is practically no correlation.

Finally, Figure XIV shows the relation of "Per Cent of Native Whites" and "Per Cent Illiterates Ten Years of Age and Over," in the population of Pennsylvania, by coun-



FIGURE XIV

Per cent native white and per cent illiterate 10 years of age or over in the population of Pennsylvania, by counties, 1920. (Data from Fourteenth Census of the United States, Vol. III, pp. 859-865.)

ties. Here there is a pronounced belt of dots, but from left to right it goes down, instead of up. This fact means that there is "negative correlation" between "X" and "Y," which is the technical way of saying that the greater the "X" items, the less the "Y" items.

Scientists are not content simply to know that two sets

of data are correlated. They require some precise measure of the degree of relationship. For this purpose they have invented what is known as the *coefficient of correlation*. By this device they grade correlation on a scale ranging from $+1.00$ through 0.00 to -1.00 . If two things are perfectly correlated positively, their coefficient of correlation is $+1.00$. If they are in no degree associated, their coefficient of correlation is 0.00 . If they are perfectly correlated negatively, their coefficient of correlation is -1.00 .

There is considerable variation in the significance attached by statisticians to different degrees of correlation. It is helpful, however, to note the estimate of a recognized authority on this point. Dr. Robert E. Chaddock asserted:

- (1) A coefficient less than .3, indicates a *low* degree of association and doubtful significance, especially if the number of related items is small.
- (2) .3 and less than .5, indicates a *moderate* degree of association if the probable error is small.
- (3) .5 and less than .7, indicates *marked* association.
- (4) .7 and less than .9, indicates a *high* degree of association.
- (5) .9 and over, indicates *very close* association and a very high degree of dependence between the variables.¹⁶

It is next important to note that a coefficient of correlation tells nothing of cause and effect. Sets of data which are correlated may stand in the relation of cause and effect, be effects of a common cause, or be simply associated by chance. So, for example, a correlation between poverty and consumption of alcoholic beverages in a community may mean that poverty causes drinking, that drinking causes poverty, that both are the result of a common cause, such as chronic unemployment, or that their association is purely fortuitous. The means of determining which of these possibilities corresponds to fact we shall consider in Chapter VII.

¹⁶ Robert Emmet Chaddock, *Principles and Methods of Statistics* (Houghton Mifflin Company, Boston, 1925), p. 304.

Yet another factor besides the degree of correlation is significant. This is the number of cases on which the correlation is based. As Dr. Chaddock observed, a coefficient which is based on very few cases has a low degree of reliability. If, therefore, many items are available, no scientist attempts to work a serious correlation on very few cases. Rather will he seek to use a large body of data, because the larger the number of cases on which the figure is based, the more likely it is to be reliable.

Statisticians have devised a precise means of testing the reliability of a coefficient of correlation. They obtain a figure known as the *probable error* (P. E.), to which reference has already been made. In the calculation of this measure of accuracy both the number of pairs of items used and the degree of correlation are taken into account. When the probable error is as large, or nearly as large as the coefficient of correlation, the latter of course has little significance. If, on the other hand, the coefficient is more than four times the probable error, true correlation is practically certain to exist.

In the case graphed in Figure XI, the probable error is the negligible figure of .008. There can therefore be no doubt of very close association in this case. In the correlation shown in Figure XII the probable error is .06, an appreciable figure, but one not large enough to render doubtful the existence of a marked degree of association. In the case of Figure XIII the probable error is .16. This is many times as great as the coefficient of correlation of $-.01$, which must therefore be rejected as worthless. Finally, in the case shown in Figure XIV the probable error of .03 gives assurance that the high degree of negative correlation which was computed does really exist.

We shall conclude our consideration of correlation with a discussion of the methods of obtaining a coefficient and

of determining its probable error. The processes are somewhat technical and it is not necessary to understand them in order to comprehend the meaning and use of the two measures. You may, if you wish, omit all but the last paragraph. If you understand the elements of algebra, however, you may well continue to the end.

We shall examine a formula commonly used and then analyze, step by step, the process by which the coefficient of correlation is obtained. This process will be illustrated by a simple example, set forth in Table I.

The formula which we shall use is that devised by the English biometrician, Karl Pearson. It is as follows:

$$r = \frac{\Sigma xy}{n \sigma_x \sigma_y}$$

In this formula the several symbols have the meanings indicated below.

r —coefficient of correlation

n —number of items

Σ —summation

x —deviation of any item in the "X" column from the arithmetical mean of all items in that column

y —deviation of any item in the "Y" column from the arithmetical mean of all items in that column.

σ —standard deviation, a kind of weighted average deviation of the members of a series from the arithmetical mean of the series.

These are the formulæ for the standard deviation of x and y , respectively.

$$\sigma_x = \sqrt{\frac{\Sigma x^2}{n}} \qquad \sigma_y = \sqrt{\frac{\Sigma y^2}{n}}$$

Suppose that we wish to determine the correlation of age of wife with that of husband. We have first of all to array in arithmetical order the age of the husband (Table I, Column "X"). Opposite each item, in a parallel column,

TABLE I

COMPUTATION OF KARL PEARSON'S COEFFICIENT OF CORRELATION
FOR AGES OF HUSBAND AND WIFE

X Age of Husband	<i>x</i> Deviation of Age from Average	<i>x</i> ²	Y Age of Wife	<i>y</i> Deviation of Age from Average	<i>y</i> ²	<i>xy</i>
45	6	36	42	4	16	24
42	3	9	38	0	0	0
40	1	1	39	1	1	1
35	—4	16	37	—1	1	4
33	—6	36	34	—4	16	24
Mean, 39		Σ <i>x</i> ² =98	Mean, 38		Σ <i>y</i> ² =34	Σ(<i>xy</i>)=53

$$r = \frac{53}{5\sqrt{98\%} \times \sqrt{34\%}} = \frac{53}{5\sqrt{19.6} \times \sqrt{6.8}} = \frac{53}{5 \times 4.4 \times 2.6} = \frac{53}{57.2} = .92$$

"Y," we record the age of the wife. We then work out the values of the unknown items in the Pearsonian formula. This may be done by taking steps in the following order:

1. Compute the arithmetical mean of the several items in the "X" column.
2. Compute "*x*," the deviation from the mean of each item in the "X" column.
3. Compute the arithmetical mean of the several items in the "Y" column.
4. Compute "*y*," the deviation from the mean of each item in the "Y" column.
5. Compute items of the "*xy*" column.
6. Sum the "*xy*" items and record "Σ(*xy*)" for the numerator of Pearson's formula.
7. Enter "*n*," the number of items, in the denominator of the formula.
8. Compute items of "*x*²" column.
9. Sum items in "*x*²" column to get Σ*x*².

10. Enter standard deviation, σ_x , $\sqrt{\frac{\Sigma x^2}{n}}$, in the denominator of the equation.
11. Sum items in " y^2 " column to get Σy^2 .
12. Enter standard deviation, σ_y , $\sqrt{\frac{\Sigma y^2}{n}}$, in the denominator of the equation.
13. Reduce the fraction to a decimal, " r ," the coefficient of correlation.

The probable error is obtained by means of the formula

$$P. E._r = .675 \frac{1 - r^2}{\sqrt{n}}$$

In our illustrative case the probable error of .046 is obtained:

$$.675 \frac{1 - r^2}{\sqrt{n}} = .675 \frac{1 - .8464}{\sqrt{5}} = .675 \frac{.1536}{2.236} = \pm .046$$

This means that chances are even that the true coefficient of correlation is between .92 minus .046, or .874, and .92 plus .046, or .966.

In addition to some essentials of definition and classification, this chapter has described the first of six processes of induction, i.e., the method of enumeration. The other five inductive methods, long known as "Mill's experimental methods," are reserved for consideration in the next chapter. In taking them up we shall be considering means of determining cause and effect, and the grounds on which it is possible to make scientific generalizations.

CHAPTER VII

MILL'S EXPERIMENTAL METHODS

COLLEGE RECORDS AND SUCCESS IN LIFE¹

Several years ago it fell to the lot of the writer to take part in an investigation [of the relation between college records and success in life]. This study was made of the records of the alumni of one of our large universities. It included all the graduates of the bachelor's course for a period of forty-five years. The most recent class studied had gone out fifteen years before, so that practically all of its members had had time to find their position in life.

The plan adopted made two things necessary: the determination, first, of the average scholastic mark in college of all of these alumni; and second, an inquiry into, and as exact an estimate as possible of their success after leaving college. The total of persons included was somewhat over 1800.

It should be said that two years were taken for this work, that it was aided by fairly complete alumni records, and that numerous graduates, as well as many others, were asked by letter to give their frank opinion on the careers in life of the various members of these classes. The committee made no attempt to define success, leaving this to the judgment of those asked to coöperate.

The striking accord between the list made by averaging the grades and that obtained by compiling information concerning success so impressed the committee that it restricted its authority largely to certification of this agreement. If a man was high in one list he was almost invariably high in the other; and if low in one, low in the other. This situation was repeated with such monotony, in the 1800 names, that the temptation became strong, when one factor was known, to accept it as a certain indication of the other.

A few representative figures will show the reason for these

¹ Hugh A. Smith, *Education*, Vol. XLVII (May, 1927), pp. 513-529, abridged.

convictions. For the first two classes of 54 graduates, a number of persons were asked opinions concerning the career and success of the members, and eight of these alumni were quite generally agreed on, and one other was suggested by at least two correspondents, as the most worthy. The college marks showed that the eight universally approved had the highest averages in the two classes, six being over 91 and two being 89. The other one, who won partial approval, had a mark of 85, which was no higher than that of four or five not suggested as eminent.

From a later class, of 75 members, a final list was submitted to a number of people: eleven won general approval, as to their eminence in life, and five others received two or more votes. Ten of the eleven were the first ten in the class in grades, all averaging above 90.

However, lest these should be thought exceptional, ten consecutive classes are taken from the middle of the list and averaged together. They show a total of 550 students. Of these 550 students there are two lists of names, taken from the records of the committee. The one is a list of ninety-three who had the highest grades in their classes. The other is a list of ninety-seven who were considered the most worthy, successful, or eminent, according to information compiled from various sources. The point to note is that these two lists *contain 87 names in common*. This means that of the 93 with the highest marks only six failed to make good in later life; only one out of fifteen has not in later life maintained the distinction shown by his marks during the four years of his college course.

More striking still is the showing of the second list. The total number of those in the lower group is 467. Only one out of forty-six of these has attained distinction in later life. When this is compared with the fourteen out of fifteen attaining such eminence from the list of ninety-three who had the highest grades, one can see the full significance of college marks as an index to later career.

It was deemed desirable to test these results by some other standard. The one readily available, and the most likely to win at least a measure of approval, was to see how many of the committee's selections were found in *Who's Who* in a number of representative classes.

Taking three of the earliest classes and counting both men and women, we find a list of twelve with the highest college records

out of a total of ninety-three. Of these twelve, nine appear in *Who's Who*. Of the eighty-one others with lower scholastic records, only one is in *Who's Who*.

A fairer test would be to consider the men alone, since comparatively few women appear in *Who's Who*. Doing this for five of the middle classes, in which the total number of men is exactly 200, we find twenty-eight ranked, on scholastic records, in the high list. Of these twenty-eight, eighteen are found in *Who's Who*. Of the 172 not in the highest list, only two are in *Who's Who*. In the eight classes examined, then, forty are found in the list of highest college marks, and of these forty, twenty-seven are listed in *Who's Who*. The number of those not in this highest list in scholarship is 253, and of these only three are to be found in *Who's Who*.

It is seen, then, that the test by *Who's Who* is no less conclusive than the figures taken from the committee's results. For a name on the high list in scholarship, the chances of appearing in *Who's Who* are more than fifty times as great as they are for a name on the lower list. Consequently these figures, if one accepts the two tests as even approximately fair standards, seem to prove conclusively that a record in college studies, high enough to confer distinction among a man's fellow students, has been a remarkably reliable indication that the holder would win distinction in later life; while it is demonstrated that the failure to win such distinction in college studies indicates, with striking regularity, a similar career in life.

This simple comparison of the records of two groups of college students well illustrates one of the most important modes of induction. This mode we shall analyze in the present chapter, together with other ways by which we can obtain generalizations regarding not only association, but also regarding cause and effect.

We are indebted to John Stuart Mill for the first really adequate analysis of the technique of the inductive process. The devices which we shall consider are therefore commonly known as "Mill's Experimental Methods." Mill stated the basic principles pertinent to inductive research in these words:

The simplest and most obvious modes of singling out from among the circumstances which precede or follow a phenomenon, those with which it is really connected by an invariable law, are two in number. One is, by comparing together different instances in which the phenomenon occurs. The other is, by comparing instances in which the phenomenon does occur, with instances in other respects similar in which it does not. These two methods may be respectively denominated the Method of Agreement and the Method of Difference.²

Further explaining these methods, Creighton said:

The purpose of these comparisons is to *exhibit and define the true cause*. This is accomplished by proceeding directly through negation. That is, the other circumstances which could be supposed to have any influence are successively eliminated. . . . It is just with a view to the possibility of elimination, that the instances are selected. Since the cause is that without which the phenomenon would not occur, the rules of elimination follow immediately: (1) That is not the cause of a phenomenon in the absence of which the phenomenon occurs; (2) That is not the cause of a phenomenon in whose presence the phenomenon fails to occur; (3) That is not the cause of a phenomenon which varies when it is constant, or is constant when it varies, or varies in no proportionate manner with it.³

The way is now prepared for a detailed examination of the several methods of analysis and induction by which Mill's general principles are applied. We consider first the *method of agreement*. The application of the method may be illustrated in the following general terms. Suppose that, upon investigation, it is observed that

the antecedents of the phenomenon A are *b c d e*;
 the antecedents of the phenomenon A' are *f g h c*;
 the antecedents of the phenomenon A'' are *c i j k*.

² John Stuart Mill, *A System of Logic*, Book III, Chap. VIII, § 1.

³ James Edwin Creighton, *An Introductory Logic*, 4th ed., rev. (Copyright, 1920, by The Macmillan Company, New York; reprinted by permission), p. 238.

Analysis then reveals that the one common antecedent is the condition *c*. If an adequate number of presumably representative cases are examined, and condition *c* is the one condition which is uniformly found to be antecedent, it may safely be inferred that this condition is either the cause or that it is related to the cause of the phenomenon under consideration.

A good concrete illustration of the use of the method of agreement is found in the analysis by which physicians frequently account for outbreaks of some forms of sickness. A number of university students and teachers, for example, were one night taken ill with acute indigestion. The similarity of the symptoms manifested indicated that all had exactly the same illness. Presumably, therefore, all the cases had a common origin. Inquiry revealed that several of the sick men had on the previous day taken food as follows:

<i>Person</i>	<i>Breakfast</i>	<i>Lunch</i>	<i>Dinner</i>	<i>Other Food</i>
A	at home of A	at home of A	at home of A	punch and cookies at reception
B	at home of B	at club	at club	punch and cookies at reception
C	at home of C	at fraternity	at fraternity	punch and cookies at reception
D	at home of D	at home of D	at commons	punch at reception

Since the one article in which all the diets agreed was the punch, the inference was plain that that was the cause of the illness.

Another illustration of the discovery of causes by the method of agreement may be drawn from the field of social phenomena. Suppose, for example, that we wish to know the cause of agitation all over the world on the part of peoples who are demanding either political independence or the transfer of the region in which they live from the

rule of one nation to that of another. Between 1920 and 1928 such agitations, amounting at times to revolutions, occurred in the Riff, India, Egypt, Syria, Haiti, Nicaragua, and the Philippine Islands; in parts of Poland, Lithuania, and Italy; and in some of the ports of China which were held by European nations, to cite at random the first cases which come to mind. We have now to inquire what circumstances, if any, all of these cases have in common. Plainly the movements could not have been the result of racial temperament; they were found among white, black, and yellow peoples. They could not have been the result of poverty; some of the regions concerned were enjoying unprecedented prosperity. They could not have been the effect of economic discrimination; in several of these localities the people were treated as full citizens of the land to which they were supposed to owe allegiance. In this manner the elimination will continue. Finally this point will be examined and it will be discovered to have been common to all the groups concerned, namely, resentment at being subject to a government which was not chosen by the governed. We may therefore make the induction that the simple desire for self-determination was the basic though, of course, not the only cause of the unrest under consideration.

The method of agreement can also be used to test the results of phenomena. Let us say that the state platform of a political party tells the voters, "The Democan party has for many years given the people of this state increased appropriations for roads and schools, and an efficiency of government which has resulted in gradually decreasing taxes." The voter asks himself, "What really is the result of putting the Democan party into power?" He examines the record of the last six Democan legislatures and governors and notes that their acts have had the following re-

sults, in comparison with those of their Republicratic predecessors.

<i>Term</i>	<i>School Appropriations</i>	<i>Highway Appropriations</i>	<i>Taxes</i>
1	less	more	lower
2	more	more	lower
3	more	less	higher
4	more	more	higher
5	less	less	higher
6	less	less	lower

Analysis shows that the claims made in the platform are not true, only half of the time has the placing of power in the hands of the Democans resulted in each of the favorable results stated. Further study does reveal, however, one consistent result of the election of a Democan administration, that is, all possible Republicrats are removed from office to make places for loyal Democans. This, then, is the true induction, and not the one stated in the platform.

Now we are prepared to understand Mill's statement of the principle on which the method of agreement is based: *If two or more instances of the phenomenon under investigation have only one circumstance in common, the circumstance in which alone all the instances agree is the cause (or effect) of the given phenomenon.*⁴

We shall probably find it easier, however, to remember the simple, negative statement of the principle, with which we conclude our consideration of this mode of induction. *Nothing is the cause of a phenomenon in the absence of which it nevertheless occurs.*⁵

⁴ Mill, *op. cit.*, Book III, Chap. VIII, § 1.

⁵ Cf. H. W. B. Joseph, *Introduction to Logic* (Oxford University Press, New York, 1916), p. 433.

The next process of induction-making which we are to consider is the *method of difference*. In this method comparison is made of phenomena which are identical, or practically identical, save in respect to the one factor which is the subject of investigation. This is the method, of course, which was used in the study of college records and success in life.

Now we shall see how this method is applied. Let us suppose that we are examining two cases of phenomena which are associated with other phenomena in the following manner. The phenomenon D is the subject of our interest.

A B C D is associated with $l\ m\ n\ o$.

A' B' C' is associated with $l\ m\ n\ q$.

From these facts we infer that o is either the cause of D or that it is in some way associated with the cause of D.

The method of difference is very commonly used in experimental work. In the laboratory it is possible for the experimenter to introduce a single new condition into his experiment and be adequately certain that all of the other conditions remain constant.

Applications of the method are very numerous. Biologists, for example, have long used it in feeding experiments. Hodge, for instance, divided the puppies of a single litter, thereby obtaining two practically identical groups. He then introduced a factor of difference by adding a little whisky to the diet of one group, while at the same time treating the two groups alike in every other respect. Difference which subsequently developed in the stamina and intelligence of the dogs he attributed to the influence of the differential factor, the whisky.

A recent experiment in the field of education also illustrates the use of the method of difference to determine the effects of certain conditions. In this case the problem was

to determine the influence upon teaching effectiveness of the size of college classes. For purposes of experiment students of substantially the same ability, as determined by mental tests, were paired and assigned to different sections of the same class. One section was then made very much larger by filling in numbers of other students who had registered for the course. These paired sections of each class met on alternate days at the same hour. Each pair was taught by one teacher, who took pains to use the same methods of instruction in both classes. Some teachers lectured and some quizzed. Results in all the classes, representing a number of different subjects, were revealed by objective examinations. These showed that, contrary to popular belief, the students in large classes learned as many facts as did those in small classes.

Illustration of use of the method of difference to determine causes is found in the very beautiful experimental work by which the mode of transmission of the tropical disease, yellow fever, was discovered. It was formerly believed that both malaria and yellow fever were caused by breathing "night air," because persons who were out in the evening frequently contracted the diseases, while those who remained at home behind closed doors and windows were seldom attacked. This theory was overthrown, as far as malaria was concerned, by investigators who lived in the malaria-ridden Roman Campagna, staying in their houses at night, but breathing the "night air" freely on their screened porches.

Some years later, in their determination to find the cause of yellow fever, a group of American physicians and their assistants used their own bodies as material on which to experiment. They established an experimental sanitary station, which was appropriately quarantined. There the men who took part in the experiment remained long enough

to make sure that they had not brought the disease in with them. Then the experiments were begun. A group of men, in a quarantined and well-screened house, unpacked, shook, and hung up the dirty linen from the beds of yellow fever patients. For twenty nights they slept in the room in which this linen was hanging. Thus they isolated the factor of air-born infection and showed, by the fact that no one of them contracted yellow fever, that the disease was not air-born. A second group of men then took up their residence in the house. For twenty nights they slept in the unwashed bedding and night shirts of yellow fever patients, for fourteen days having their pillows covered with towels, soiled with the blood of patients. Thus they isolated the factor of bodily contact. Again nothing unusual happened, so that one more hypothesis was cast into the discard. Still other men allowed themselves to be bitten by a mosquito, *Stegomyia fasciata*, which had previously been suffered to bite persons just after it had been determined that they had yellow fever. Of the men bitten less than twelve days after the mosquito had bitten the patients, none developed yellow fever. Of the ten persons bitten more than twelve days after the mosquito had bitten the patients, eight developed the disease. Repeated experiments with mosquitoes gave similar results. Thus was the crucial factor isolated and evidence obtained which made possible the generalization, "Yellow fever is transmitted from person to person by the mosquito, *Stegomyia fasciata*, which can communicate the disease only after about twelve days have elapsed after the time of biting a person who has the disease."⁶

Use of the method of difference to determine the cause of a phenomenon is also found in the following investigation from the field of sociology. A student wished to get light on the influence of heredity and environment upon

⁶ *Popular Science Monthly*, Vol. LIX, pp. 225-241.

moral conduct. She did this by examining the records of some two hundred and sixty-five young men and women. All had been born in the slums of London, to parents who were of the very lowest social stratum—ne'er-do-wells, drunkards, and thieves. Either because the homes were broken or because the parents were adjudged to be unfit guardians, these children had been taken from their fathers and mothers, in whose footsteps they otherwise would presumably have followed. They had been placed for adoption in normal families in western Canada. The reports obtained by the investigator revealed the fact that some seventy-two per cent of the boys and girls, then grown to maturity, had established themselves in their communities as normal, self-respecting, and respected men and women. Results were doubtful in some sixteen per cent of the cases, while in less than eleven per cent of the cases were the results reported as definitely unsatisfactory.⁷

Here the changed factors, be it noted, were purely environmental. The inference was therefore justified that environment, rather than heredity, determines morality of conduct.

Mill's statement of the principle on which the method of difference rests is as follows: "*If an instance in which the phenomenon under investigation occurs, and an instance in which it does not occur, have every circumstance in common save one, that one occurring only in the former, the circumstance in which alone the two instances differ is the effect, or the cause, or an indispensable part of the cause, of the phenomenon.*"⁸

We shall conclude our examination of the method with this simpler negative statement, based on one by Joseph:

⁷ Mary Horner Thomson, *Environment and Efficiency* (Longmans, Green and Company, New York; Andrew Melrose, Ltd., London, 1912), p. 67.

⁸ Mill, *op. cit.*, Book III, Chap. VIII, § 2

Nothing is the cause of a phenomenon in whose presence the phenomenon fails to occur.

It is well to note in passing that the distinction between the method of agreement and the method of difference is often largely verbal, that the name which one applies to the method which he uses may depend simply upon the way in which he looks at his data. If one reasons, for example, "In 1860, Massachusetts, Ohio, and Iowa were all free states and were all highly prosperous," he is using the method of agreement. Likewise if he reasons, "In 1860, Virginia, Florida, and Arkansas were all slave states and were only moderately prosperous," he is again using the method of agreement. If he uses precisely the same data in a slightly different way, however, and says, "In 1860, the free states Massachusetts, Ohio, and Iowa were all highly prosperous, while the slave states Virginia, Florida, and Arkansas were only moderately prosperous," he is using the method of difference.

It is worth noting that sometimes the method of agreement and the method of difference are used to supplement each other. Galton used both, for instance, in his investigations of heredity and environment. He studied identical twins, that is, twins who are the product of a single fertilized ovum, and whose heredity is therefore just the same. His investigations of such twins who were brought up in different environments showed that they nevertheless developed remarkable similarities of temperament and manner. In this comparison he used the method of agreement. He also studied ordinary twins, that is, those who are born of different ova which mature at the same time, and who are therefore no more alike than any other brothers and sisters. He found that such twins, though given as nearly identical nurture as it is possible to give, became less and less alike as they grew older. Here he used the method of

difference. Both methods led to the same conclusion and therefore gave ground for the inference that temperament and mannerisms are the result of heredity rather than of environment.⁹

We now come to what is known as the *joint method of agreement and difference*. Its use makes possible the discovery of facts which could not be learned by the use of either method alone with the data which are available. The method may be illustrated in general terms as follows:

The phenomenon A is associated with $b c d e f$.

The phenomenon A' is associated with $b d e f g$.

The phenomenon A'' is associated with $b d h i j$.

The phenomenon A''' is associated with $b d k l m$.

Additional cases all show the same thing, the phenomenon A is associated with both b and d . If it were possible to find a case of A without one or the other of these associated conditions, the problem would be solved. Since no such case can be found, we have to suspend judgment with this partial solution, and proceed from the method of agreement to the method of difference. In using this method we study cases in which A is absent. They are as follows:

The phenomenon not- A is associated with $c d e f$.

The phenomenon not- A' is associated with $d e f g$.

The phenomenon not- A'' is associated with $d h i j$.

The phenomenon not- A''' is associated with $d k l m$.

Here we learn that A is always absent when b is absent. We therefore infer that of the two undetermined factors it is b and not d which is the cause of A .

The use of this method can be illustrated concretely by

⁹ Sir Francis Galton, *Inquiries into Human Faculty and Its Development* (The Macmillan Company, New York, 1883), pp. 216-243. These conclusions are not accepted by present-day psychologists in precisely the form in which Galton stated them, but the case well illustrates the method cited.

another study of the causes of sickness. Suppose it has been determined that a group of persons have been made ill by something which they ate at a supper. Investigation shows (method of agreement) that the menu of persons who became ill was as follows:

<i>Person A:</i>	soup	meat	potato	peas	—	pie	coffee
<i>Person B:</i>	soup	meat	potato	peas	—	pie	—
<i>Person C:</i>	soup	—	potato	—	salad	pie	coffee
<i>Person D:</i>	soup	—	potato	peas	salad	—	coffee

This analysis eliminates as possible causes all the dishes which were not eaten by persons who became sick. The illness was not caused by the meat, peas, salad, pie, or coffee, for some persons became ill who did not eat them. The matter is undecided, however, as between the soup and the potato.

We now resort to the method of difference by comparing the menus of the well with those of the sick. Well persons ate these dishes:

<i>Person E:</i>	—	meat	potato	peas	salad	—	coffee
<i>Person F:</i>	—	—	potato	peas	salad	pie	coffee
<i>Person G:</i>	—	meat	potato	—	—	pie	coffee
<i>Person H:</i>	—	meat	—	peas	salad	pie	—

We now see that some persons ate potato but were not sick, while no person who was not sick ate soup. Thus it is clear that soup and not potato was the cause of the illness.

The principle on which this method is based may be stated in these words: *If two or more instances in which the phenomenon occurs have two circumstances in common, while two or more instances in which it does not occur lack one of these circumstances, that one of these circumstances in which alone the two sets of instances differ is the effect, or the cause, or an indispensable part of the cause, of the phenomenon.*

Our fifth inductive process is called the *method of concomitant variations*. It consists simply in noting the way in which two sets of phenomena vary, and seeing if there is any regularity in the variation of their relations to each other. We note, for example, that there is a regular relation between the position of the moon and the ebb and flow of the tides, and also that the height of the tides varies consistently with the phases of the moon. Spring tides occur near the new and the full moon, and neap tides come a day or two after the first and third quarter of the moon. These phenomena vary together so exactly and so consistently that no person who understands the nature of gravitation can doubt that it is the attraction of the moon which causes the tides.

Life abounds in illustrations of this method of concomitant variations. When, for example, we note that year after year there is a seasonal variation in the death-rate from pneumonia, we are led to suspect that there is some reason for the constancy of this relation. We observe that the seasons are accompanied by changes in the amount of fresh air and exercise which we get, and consequently in the amount of our vitality; likewise that the seasons are accompanied by changes in temperature and humidity. We infer that one or more of these circumstances may be the cause of the varying death-rate, and we proceed to carry our investigation further. Careful study, of course, reveals with which of these and similar circumstances the death-rate varies from season to season.

Again, we observe that, other things being equal, prices vary directly with the amount of money which is in circulation. This fact is so well known that even the man in the street can predict what will happen to the financial and business life of a country whose presses begin to turn out large amounts of notes which are not backed up by

specie, while the economist has embodied it in his carefully formulated "Quantity Theory of Money."

The principle on which the method of concomitant variations is based is a very simple one. Mill states it in these words: "*Whatever phenomenon varies in any manner whenever another phenomenon varies in some particular manner, is either a cause or an effect of that phenomenon, or is connected with it through some fact of causation.*"¹⁰

Our last form of induction is the *method of residues*. Use of this method centers attention on unexplained parts of phenomena. This fixing of attention may serve either one of two purposes. It may reveal the cause of some phenomenon or it may indicate a need of further investigation, usually by the method of difference. The method is not really itself a separate method, to be put on a parity with the others we have been considering.

The use of the method of residues is strikingly illustrated by the circumstances leading up to the discovery of the inert constituents of the atmosphere. Long ago Lord Cavendish obtained nitrogen by removing the oxygen, carbon dioxide, and traces of hydrogen and ammonia from atmospheric air. When his supposedly pure nitrogen was treated electrically, most of it united with another element to form a compound, but there remained about one per cent of its volume that would not combine. This residue offered the clew to a discovery, but it was not made for about a century. Then investigators observed that the weight of nitrogen which was obtained from chemical compounds was slightly less than that of nitrogen obtained from the air. They therefore inferred that some unknown and heavier gas must be present in the atmosphere. When they recalled and repeated the experiment of Cavendish they, too, obtained a residual bubble. Later investigations

¹⁰ Mill. *op. cit.*, Book III, Chap. VIII, § 6.

revealed this bubble to consist chiefly of the element which is now known as argon. Still later, when argon was liquefied and then frozen, minute residual quantities of gas remained unchanged, and this residue was gradually analyzed into the elements neon, xenon, and krypton.

In the light of these experiences we can understand one of the simple principles on which the method of residues is based. It is stated by Creighton as follows: *When any part of a complex phenomenon is still unexplained by the causes which have been assigned, a further cause for this remainder must be sought.*¹¹

The use of this method in the social sciences can be illustrated in many ways. A university teacher, for example, wished to find out why some of his students were doing unsatisfactory work. He suspected incapacity on the part of certain individuals. All of the students had previously taken an intelligence test and he consulted the results of those tests. He found that several of the persons whose ability he had doubted had made average scores on the test. While limited capacity, then, might explain why those persons did not do brilliant work, it was not an adequate explanation of their very poor work. There remained a large residuum of deficiency for which another explanation had to be sought.

Again, a newspaper editor received a large sum of money. The reasons for which, according to his own statement, the money was given to him were so inadequate as to make investigators feel that additional reasons must be discovered before the payment could be satisfactorily explained.¹²

The second use of the method of residues is to determine

¹¹ James Edwin Creighton, *An Introductory Logic*, 4th ed., rev. (Copyright, 1920, by The Macmillan Company, New York; reprinted by permission), p. 262.

¹² See *infra*, pp. 231-232.

causes. What was the cause, for example, of American recognition of the independence of the republic of Panama? The cause of belief in self-determination of little states was insufficient to explain it, even with the addition of the current practice of recognizing *de facto* governments. These facts might have served to explain ultimate recognition, but not the residual elements of the conspicuous haste with which recognition was granted, or the use of United States forces to prevent the suppression of the rebellion by Colombia. These elements in the situation were adequately explained, however, when Colombian delays and American eagerness to dig the Panama Canal were considered.

In the light of this episode we see the point of Mill's rule, as applied to the Method of Residues. The principle is as follows: "*Subduct from any phenomenon such part as is known by previous inductions to be the effect of certain antecedents, and the residue of the phenomenon is the effect of the remaining antecedents.*"¹³

An important illustration of the use of this method is found in the researches of Malthus on population. In the first edition of his essay, Malthus declared that, because population tends to increase faster than the food supply, man must always remain in a miserable state of poverty, and that human populations would always be kept down by war, famine, pestilence, or vice. These influences did not explain, however, the fact that at sundry times and places, men live for long periods in comparative health, comfort, and plenty, even in old established countries without large areas of undeveloped land. Malthus' explanation, therefore, appeared inadequate. Malthus himself presently revised his theory by saying that there might be other influences which could keep population in appropriate relation to the food supply. These influences, he

¹³ Mill, *op. cit.*, Book III, Chap. VIII, § 5.

said, are the practices of postponing marriage and of restricting the size of the family. Together with the forces already mentioned, they were and are adequate to give a general explanation of the relation of population to food supply in all parts of the world.

Before we leave this phase of the subject of induction we should note that these several inductive methods are but phases of one general, fact-finding, analytic process. This consists in examining, one by one, various possible explanations of a phenomenon, until, as the result of elimination of unsound surmises, the true explanation is discovered. This process we shall now explain and illustrate. Let us suppose that we are seeking to demonstrate the cause of a phenomenon, M , which we suspect to be causally related to an antecedent phenomenon, A . Now there are five relations which these two phenomena can bear to each other. As Professor Montague said:

The cause or effect of M is either

- (1) a phenomenon symbolized by X that is related to A only casually or by chance; or
- (2) a phenomenon symbolized by B , C , or D , which is collocated with A but not indissolubly; or
- (3) a complex phenomenon symbolized by AB , AC , or AD , of which A is an indispensable part; or
- (4) a phenomenon symbolized by α which is an aspect, phase or degree of A ; or
- (5) A itself.¹⁴

We can make the case concrete by saying that the cause of M (malaria) is either

- (1) a phenomenon symbolized by X (some unknown cause) that is related to A (the developing in the body of large numbers of *Plasmodium vivax*) only casually or by chance; or

¹⁴ William Pepperell Montague, *The Ways of Knowing* (Copyright, 1925, by The Macmillan Company, New York; George Allen and Unwin, Ltd., London. Reprinted by permission), pp. 101-102.

(2) a phenomenon symbolized by B (living in the neighborhood of swamps), C (living in a place infested by mosquitoes), or D (being closely associated with many persons suffering from malaria), which is collocated with A but not indissolubly; or

(3) a complex phenomenon associated with AB (living in the neighborhood of swamps and developing in the body large numbers of *Plasmodium vivax*), AC (living in a neighborhood infested by mosquitoes and developing in the body large numbers of *Plasmodium vivax*), or AD (being closely associated with many persons suffering from malaria and developing in the body large numbers of *Plasmodium vivax*), of which A is an indispensable part; or

(4) a phenomenon symbolized by α (being bitten by a mosquito which has in its system the parasite *Plasmodium vivax*), which is an aspect, phase or degree of A ; or

(5) A itself.

These five possibilities must now be tested by the chief inductive methods with which we have become acquainted. First, to eliminate the possibility that M and A occur together simply by chance, we make examination of a number of cases by the method of enumeration. We then compare the proportion of cases in which M occurs with A , with the proportion of cases in which we should expect to find M and A together, if they were quite independent of each other. Suppose that in a given year one in a thousand of a given population has M (malaria) and that in the same period one in a thousand of the same population has A (the developing in the body of large numbers of *Plasmodium vivax*). Then, if M and A were quite independent, they would occur together only once in each million of the population. Since, in reality, M and A occur together much more frequently than they would if they were quite independent, it becomes apparent that there is some causal relation between them, and the factor of chance is therefore eliminated.

Our next task is to see if the apparent association of M

with *A* is really only an association with *B*, *C*, or *D*, which is associated with *A*, but not indissolubly. We therefore resort to the method of difference, and study the extent to which *M* is found in the presence of *A*, *B*, *C*, and *D*. It now appears that there are cases of *B*, *C*, and *D* in the presence of which *M* does not appear. These factors are therefore eliminated as the basic cause of *M*. We find, however, no cases in which *M* appears in the absence of *A*. We therefore see that *A* is associated with the cause of *M*. It is still unsettled, however, whether *A* is the entire cause, only a part of it, or something which includes it. This we can not learn by the method of difference. We therefore proceed with our investigation by another method.

We have next to examine our third possible explanation of *M*, that it is caused, not by *A*, but by *AB*, *AC*, or *AD*. We therefore resort to the method of agreement, to see if *A*, *AB*, *AC*, or *AD* is always present when *M* is present. We count cases to see if all cases of *M* are alike in being associated with *A*, *AB*, *AC*, or *AD*. We now discover that while *A* is always present when *M* is present, *AB*, *AC*, and *AD* are frequently absent. Thus we ascertain that *A* and not *AB*, *AC*, or *AD* is a causal factor.

There still remains the possibility that the true cause of *M* may be not *A*, but some phase of *A*. To eliminate this possibility the method of concomitant variations is used. When it is applied we find, whatever *a* may be, that *M* varies in perfect concomitance with *A*, but not with *a*. Thus it is finally demonstrated, by the use of these four methods, that the true cause of *M* is *A*, and not *a*, *B*, *C*, *D*, or *AB*, *AC*, or *AD*.

Of course it seldom happens that all four of these inductive processes have to be used in any one investigation, but it is important to appreciate the manner in which use

of the inductive method successively eliminates alternative explanations of a phenomenon.

We are now ready to consider the causes of fallacies of induction. Of these there are three important ones which must be noted. First, there are the fallacies which result from the use of biased evidence, either intentionally or unintentionally. Dishonest propagandists frequently use unrepresentative evidence deliberately. Such are the persons who deceitfully assemble particular facts to "prove" a point. Examples are furnished by the investigator who would demonstrate that the Filipinos do not want independence by enumerating the individuals he has met who are in opposition, by the reactionary who generalizes that socialists are opposed to religion because he can cite communists who have asserted that their political tenets are incompatible with religion, by the ultra-radical who cites the cases of selected rich libertines as proof that all wealthy persons are dissolute. Additional cases will be cited in our chapter on dishonest propaganda.

Biased evidence is also often used unintentionally. This occurs when the circumstances of an inquiry tend to bring out only one side of a question. This, of course, is what occurs when the careless traveler generalizes about Italian life after spending a fortnight in the hotels of Naples, Rome, Florence, and Venice; when the credulous believer reasons about the merits of some patent medicine from the cases of satisfied users of whom he has heard; when the illogical employer judges all Swedes by the wanderers who help in his harvest fields.

A second source of erroneous induction is the fact that persons jump to conclusions without adequate evidence. Of course it does not follow because one lacks evidence adequate to justify a conclusion, that the surmise which he bases on inadequate evidence is untrue. The terms

"unproved" and "untrue" are by no means synonymous. Nevertheless the fact that some statement is true does not save its maker from being unscientific, if he asserts it as true on insufficient evidence.

The tendency to commit this error of generalizing from inadequate evidence is always harmful. In those cases where false generalizations are made it is of course dangerous; while in the cases where the generalization happens to be correct, persons are led to infer falsely that inductions can be made on fewer cases than is actually scientific, and therefore to make risky if not untrue generalizations on other occasions.

Our last cause of fallacious induction is found in the misuse of adequate or unbiased evidence, by reason of faulty interpretation. Sometimes the error lies in confusion of inference with observation. This was the case with the reasoning of most Americans in war-time regarding the conscientious objector. They observed, for example, that Mennonites would not fight, but they thought they observed pro-German Mennonites. From the available cases they then made their false induction, "Mennonites are pro-Germans." Another illustration is furnished by current reasoning regarding the American Negro. Whites observe Negroes moving into desirable residence neighborhoods. Actually the Negroes do this because they want to get out of the slums into sanitary houses, on paved streets, near good schools. Most whites do not understand this, however, and they think they observe Negroes - who - move - into - desirable - residence - neighborhoods - because - they - want - to - thrust - themselves - upon - white - folks, and they make their erroneous induction, "Negroes are persons who want to thrust themselves upon whites."

There is a second form of faulty interpretation of data which causes faulty induction. This is the fallacy of in-

ferring that because two things occur together or in sequence that they are causally related. It is known as the fallacy of the False Cause, and also as *Post hoc, ergo, propter hoc*, that is, "After that thing, therefore, because of that thing." The fact is that association does not, in itself, reveal cause and effect. Suppose, for example, we discover by enumeration that 50 per cent of the men in a college smoke, and that from the ranks of the smokers come 75 per cent of those who are dismissed from college for failing in their work. We then possess the simple fact of the association, nothing more. The careless thinker may infer it to have been demonstrated that smoking is the cause of the failures. This inference is unwarranted, however. Three possible theories are all in harmony with the facts as observed. First, smoking may tend to cause failure; second, the tendency to failure may cause smoking; third, both smoking and the tendency to fail may be results of a common cause, such as excessive sociability.

This fallacy, it is helpful to note, bears the same relation to induction that the *non sequitur* bears to deduction.

The fallacy is further illustrated by the arguments that the failure to read the Bible in the public schools is responsible for the local increase in juvenile delinquency, that the moral laxity of the present day is due to woman suffrage, and that the prevalence of Roman Catholicism in Spain is to be attributed to the fact that the Spaniards belong to the Mediterranean race. These cases of poor reasoning may be palpably false to us, but there are many other cases in which we do not detect the error. When, for example, we are told that the wealth of the United States is to be attributed to the superior intelligence of the Nordic settlers, we may neglect to take into consideration such other factors as our vast expanse of fertile land, our great mineral resources, and our historic freedom from costly

military establishments, and we may therefore unwisely accept the conclusion. Or when we are told that Russia has been very poor since the War because of Bolshevism, we may take the statement at its face value; ignoring the fact that millions of Russians have been killed; that much property was destroyed or worn out in war time, and that for several years after the War the country suffered from economic blockade and from severe droughts, influences which are in themselves quite sufficient to account for a vast amount of poverty.

This particular error of confusing association with cause or effect requires special attention, because it is one of the most common mistakes of current pseudo-science, and is perhaps responsible for more social delusions than is any other logical fallacy. When we examine the error carefully we see that it rises from trying to use the Method of Agreement or the Method of Difference to discover the cause of a phenomenon without adequate analysis and classification of data. We shall first examine fallacies originating in misuse of the Method of Difference. The kind of fallacy then committed may be illustrated by the following case, typical of those with which the social scientist has to deal. Close thinking will be necessary to follow the demonstration of the error, but no further knowledge of logical or statistical principles is necessary than the fundamental rule that *groups can fairly be compared only when they are alike in all essentials save the one under consideration*.¹⁵

It is alleged, let us say, that the foreign-born population of the city of Zenith is more inclined to commit crime than is the native-born population, that is, that foreign birth is a cause of crime. An investigator wishes to discover just what truth there is in this oft-repeated generalization. He

¹⁵ Cf. *supra*, p. 130.

TABLE II

CLASS	POPULATION		CONVICTIONS	
	Number	Per Cent	Number	Per Cent
Foreign born	2,000	20	190	31.9
Native born	8,000	80	405	68.1
TOTAL	10,000	100	595	100.0

therefore obtains for the last ten-year period statistics of population and of convictions, including, in the case of alleged juvenile delinquents, court action other than discharge. His problem is to see whether or not the figures justify the generalization. The unanalyzed facts are presented in Table II. They show that 20 per cent of the population, the foreign-born part, furnished about 32 per cent of the convictions, including action by the Juvenile Court other than discharge.

These facts are not, however, sufficient to prove the greater tendency to crime of the foreign-born. Women are less likely to commit crime than are men. A larger part of the native-born population than of the foreign-born population in this city is female. Allowance has to be made for

TABLE III

CLASS	POPULATION		CONVICTIONS	
	Number	Per Cent	Number	Per Cent
Foreign-born males	1,500	27.0	180	33.5
Native-born males	4,000	73.0	357	66.5
TOTAL	5,500	100.0	537	100.0
Foreign-born females	500	11.1	10	17.3
Native-born females	4,000	88.9	48	82.8
TOTAL	4,500	100.0	58	100.0

TABLE IV

AGE CLASS	POPULATION		CONVICTIONS	
	Number	Per Cent	Number	Per Cent
<i>Age Class 0-14.9</i>				
Foreign-born males	200	11.8	15	26.8
Native-born males	1,500	88.2	41	73.2
TOTAL	1,700	100.0	56	100.0
Foreign-born females ...	170	10.2	6	24.0
Native-born females	1,500	89.8	19	76.0
TOTAL	1,670	100.0	25	100.0
<i>Age Class 15-45.9</i>				
Foreign-born males	1,200	37.5	155	37.3
Native-born males	2,000	62.5	265	62.7
TOTAL	3,200	100.0	420	100.0
Foreign-born females ...	300	13.0	4	12.5
Native-born females	2,000	87.0	28	87.5
TOTAL	2,300	100.0	32	100.0
<i>Age Class 46 and over</i>				
Foreign-born males	100	16.7	10	16.4
Native-born males	500	83.3	51	83.6
TOTAL	600	100.0	61	100.0
Foreign-born females ...	30	5.7	0	
Native-born females	500	94.3	1	
TOTAL	530	100.0	1	

this fact. This means that the two groups must be equilibrated. That is, the members of the two groups must be so subclassified that the subclasses are for practical purposes identical, save with respect to the factor which is being studied. In the case at hand this means, first of all, that a sex classification must be made. The result of making this classification is shown in Table III. It reveals the fact that both foreign-born men and women furnished convictions out of proportion to their numbers. The analysis is by no means adequate as yet, however.

A larger proportion of the foreign-born than of the native-born is in the age period fifteen to forty-five, in which most crime is committed. It is therefore necessary to make still more detailed analysis, to allow for this factor. The results are given in Table IV. They indicate that in proportion to population both male and female foreign-born persons in the age classes "fifteen to forty-five" and "forty-six and over" furnished less than their share of convictions for crime.

This discovery frees the foreign-born adults from the charge of being more inclined to commit crime than are the natives. Attention now naturally turns to juvenile delinquents, for it appears from the table that delinquency among foreign-born children is relatively high. Inasmuch as children under the age of ten years are seldom, if ever, brought before a court with charges preferred against them, and since more foreign-born children in Zenith are in the age class "ten to fourteen," it seems advisable to consider separately the age group "ten to fourteen." The results are given in Table V.

TABLE V

AGE CLASS 10-14.9	POPULATION		CONVICTIONS	
	Number	Per Cent	Number	Per Cent
Foreign-born males	150	27.3	15	26.8
Native-born males	400	72.7	41	73.2
TOTAL	550	100.0	56	100.0
Foreign-born females	140	25.0	6	25.0
Native-born females	420	75.0	19	75.0
TOTAL	560	100.0	25	100.0

They show that foreign-born children in this age class, in which all the delinquent children were located, are slightly

less delinquent in proportion to their numbers than were native-born children. The foreign-born are therefore totally freed from the charge of being notably more criminal than are the natives.

No doubt it is obvious that even as finally classified the two groups are not yet similar in all respects. This is true, but they do appear to be similar in all respects *essential to the investigation*. It is of course a fact that the foreign-born live in poorer neighborhoods, do lower grades of labor, are more likely to be unemployed, and are less likely to be well defended in court than are natives. These are factors which make for crime and convictions, however, and since allowance for them would tend to decrease yet more the apparent criminality of the foreign-born, further analysis seems to be superfluous.

It should now be easy for us to see why men reason, for example, that since Vermont has capital punishment while Kansas has not, capital punishment is the cause of the lower murder rate in Vermont; that since the United States is "dry" while Great Britain is "wet," prohibition is the cause of the greater prosperity which the United States enjoys; that since native Americans made higher scores on the army intelligence tests than did foreign-born Americans, native stock is proved to be innately superior to foreign-born stock.

We must now turn to note how incomplete classification causes error in the use of the Method of Agreement. Years ago, for example, some persons who were considering the Indian practice of taking scalps, properly ruled out as possible causes the influence of geographic environment, climate, and the nature of Indian industry, since all the factors differed among Indians who took scalps. They then decided that the cause must be found in a factor common to all scalp-taking Indians, namely, their Indian heredity.

They therefore concluded that the Indian followed the practice of taking scalps because it was Indian instinct to do so.

Persons who made this inference made the mistake of not carrying their study far enough. Further analysis shows that all scalp-taking Indians not only had Indian heredity, but also possessed a tradition of scalp-taking. The Method of Agreement does not tell us which is the cause of the practice. Resort to the Method of Difference does clear up the difficulty, however. It reveals that there were non-scalp-taking Indians with the same heredity as that of the scalpers, but with different traditions. Not heredity, therefore, but tradition, stands revealed as the cause of the practice.

This same type of fallacy is frequently committed by some advocates of eugenics. Such persons cite cases of families many of whose branches have for generations been known for their undesirable members, the Kallikaks, the Jukes, the Nams. By the use of the Method of Agreement they eliminate sundry possible causes of the undesirable traits which are manifested. Then they point out that all undesirable persons in the family have the family heredity and they assert that this heredity alone accounts for the appearance of the undesirable individuals. This is a thoroughly unscientific procedure because it fails to take account of the uniformly bad environment in which the undesirable members of the family grew up. These pseudo-scientists tell us, of course, that it is the defective heredity which causes the bad environment, but when they assert this they assume the truth of just the point which is to be proved.

In order that this matter may be unquestionably clear, we give some analytical tables. First we note the use of the Method of Agreement. Undesirable individuals among

the Kallikaks, let us say, have traits as indicated in the following tabulation:

Individual	Heredity	Home Environment in Childhood	Father's Occupation	Schooling	Economic Status of Father
A	Kallikak	poor	farmer	poor	poor
A'	Kallikak	fair	laborer	poor	poor
A''	Kallikak	poor	farmer	fair	poor
A'''	Kallikak	fair	teamster	poor	poor

From these statements it appears that there are at least two important characteristics common to these undesirable individuals. We can not, therefore, on the basis of evidence analyzed by this method, say which, if either, is the unique cause of their undesirability.

It is now necessary to examine the record of the not-undesirable Kallikaks, for there have been such persons. We find their record, let us say, is something like this:

Individual	Heredity	Home Environment in Childhood	Father's Occupation	Schooling	Economic Status of Father
B	Kallikak	poor	farmer	fair	poor
B'	Kallikak	fair	barber	fair	fair
B''	Kallikak	fair	laborer	poor	poor
B'''	Kallikak	poor	waiter	fair	poor

Now it is plain that, since the Kallikak heredity is present in both the undesirable and the not-undesirable individuals, it will not do to say that Kallikak heredity is always bad,

and that it is the unique cause of Kallikak undesirability. On the other hand, of course, we can not say that a poor home environment is the unique cause of undesirability in the family, since some of the not-undesirable as well as the undesirable persons also had poor childhood environments. We are therefore left without a conclusion, but with several theories on which to base further studies. First, undesirable Kallikaks may have inherited traits different from those inherited by the not-undesirable Kallikaks. In that case bad heredity may indeed be the basic difference between the two groups, but to say this is very different from asserting that all Kallikaks have bad heredity. Second, the undesirable Kallikaks may have the same heredity as the others, but because of certain factors of their environment which analysis does not yet make clear, they developed differently. The result of our analysis then, be it noted, is not to deny the potency of heredity, but simply to show that fallacy results from inadequate analysis of data.

This same type of fallacy is committed in the argument that the descendants of Jonathan Edwards were desirable citizens simply because of good heredity, that Negro backwardness is the result solely of an inferior heredity, and that Nordic success is to be attributed exclusively to fine racial traits. Such reasoning ignores the good environment enjoyed by the Edwards grandchildren, the miserable slave background of the Negro, and the superior opportunities which Nordics have enjoyed in America by reason of the fact that they were the first Europeans to settle what is now the United States.

We are now ready to complete our study of formal logic with a consideration, in the next chapter, of analogy and the comparative method.

CHAPTER VIII

ANALOGY AND THE COMPARATIVE METHOD

PARABLE OF THE RICH HOUSEHOLDER ¹

Here we are living in a small village. This village is peculiar. It is a sort of enchanted village. We cannot get out of it. When we are once born into this village, there we must stay, whether we like it or not.

Recently there has been in this village a tremendous conflagration which has burned down about a third of it, destroyed an immense amount of property, and killed a great many of the villagers. Even before the fire was more than partly under control the villagers got together and said:

"This must never happen again." They said: "We are to blame. We never had an equipment for fighting fires. We never had, in fact, any fire department that was good for much, and consequently the fire almost mastered us. Now we will have the best fire department we can get. We will equip it with every kind of up-to-date appliances if we can get them, and we shall be ready to do better work when such a danger occurs again.

"Moreover, we want to leave this village in better shape to our children than we have ever had it. We will band ourselves together into an organization for building a better village. We will call ourselves the Village Improvement Association, and we will have that in addition to our new fire company."

Well, virtually everybody joined that association and the new fire company. All the big householders went into it but three.

There was one who was a great merchant in the village who was not asked to join. His name was Fritz, and he was not asked to join because most of the villagers thought that he had started the fire.

There was another big householder in the village who also was

¹ Charles H. Levermore, *Parable of the Rich Householder* (The League of Nations Non-Partisan Association, New York, 1924), abridged.

not invited to join. His name was Ivan, and he had the biggest farm in the village, but it was not very well cared for. The buildings were rather tumble-down. Just at the time of the fire Ivan went on a terrific spree, and when he was full of red hooch he stood out in the main highway of that burning village, and shouted hoarsely to the other villagers, "You think that is something of a fire, don't you? You wait and see the fire I am going to kindle in a little while." That talk scared the villagers so much that they would not ask Ivan to join the new fire company. They thought that they would better wait until he sobered off.

But there was another big householder whom the villagers expected to be with them. They counted on him. His name was Sam. He lived at the west end of the village, just across the valley through which flows a brook. His farm was bigger than any one's except Ivan's and it was pretty well cared for. There were very good buildings on it, and he was regarded as perhaps the most prosperous villager.

Sam said to the astonished villagers, "No, I am not going to join you. I don't quite like your company or your plan. I don't care to have this one and that one in your crowd able to outvote me at the meetings and tell me where I can get on and off."

They said, "You have mistaken the character of our association. It is not run on military lines at all. We cannot order you to get out of bed at midnight and run down to a fire if you don't want to. This is a purely voluntary fire company. But you know perfectly well the fire is not out yet. Every time a wind of hate blows through our village, the embers glow and the sparks fly. They might just as easily fly over your buildings again as they did before, and your property might be the first to get burned the next time."

Sam said, "I will have a fire company of my own." And the villagers said: "How can you have a fire company of one? Do you expect Fritz and Ivan to join with you?"

Sam mulled over that for two years, and then gave it up.

Meanwhile the villagers went to work. They organized their new fire company. They got the best machines that they could afford to buy and the best appliances available. They employed mechanics to install and man a water system that they thought would throw a stream of water over the most imperial skyscraper in the village. They went to work also with the Village Improvement Association. They laid new sidewalks. They

started a new hospital. They began to drive the drug peddlers off the streets, and they cleaned up the red-light district.

Then Sam unbent a little and said: "I will tell you what I will do. I will let some of my boys come to some of your meetings, and they can sit there and take notes. They can give you advice if you wish them to, but it must be understood that they are merely unofficial observers. They cannot sign anything or commit me to anything. I am not going to be responsible for any of the expenses incurred."

Well, the villagers were glad to have help from Sam on any basis or in any manner, whatever they may have said about it among themselves. There are rumors that even some members of Sam's household wonder whether that kind of coöperation, if it is coöperation, is exactly what the richest and most prosperous and happiest householder in the village should give.

The word "analogy" means resemblance of form, function, or relation. It may be said that there is analogy between the wings of a bird and the arms of a man, and between the captain of a football team and the general of an army. Our introductory tale is, of course, an analogy.

In logic and science the method of analogy is that of reasoning from one single case or class of case to another single case or class of case. The logician calls this "reasoning from particular to particular." In this manner, one infers that because something is true of one phenomenon, the same thing is true of a second phenomenon which resembles the first. Reasoning by analogy, European explorers in America decided that since the potato was a good food for Indians, the potato was also good for Europeans. In this conclusion they were, of course, entirely right. But reasoning by analogy that houses which were good for the European were good for the Indian, early missionaries often prepared the way for scourges of diseases associated with impure air, which worked havoc among the aborigines. In the first of the foregoing cases the analogy was good, because the digestive system of the European

resembled that of the Indian to the extent that it could assimilate the potato readily. In the second case it was poor, because the Indians' lungs differed from those of the European by being unadapted to withstand impure air and the germs of tuberculosis.

Analogy is not, when used alone, a safe method of reasoning. This is because most frequently when data resemble each other the similarity is only of superficial, rather than of fundamental, significance. We may say, indeed, that whenever an analogy is valid it is not so because it is ever scientific to reason from particular to particular, but because, though the fact is not realized, the things compared are alike in being members of the same class.

Four circumstances are present in valid analogies. First, *the points of resemblance are real, not imaginary*. This is the case when the Russian Revolution is likened to the French Revolution. It is not true when statute law is compared to natural law, or when a person who advocates a constitutional amendment is compared to one who advocates revolution.

Second, in valid analogies *the points of resemblance are basic*. This is obviously the case when, for example, the Congress of the United States is likened to the legislature of a state. It is obviously not the case when the president of France is likened to the president of the United States, or when failure to protect the throat with Smith Brothers Cough Drops is likened to failure to protect the body with adequate clothing.

Third, in good analogies *points of resemblance are numerous*. Such is the analogy of a trade union to an employers' association. Such, on the other hand, was conspicuously not the case when the oil magnate justified the illegal practices by which he destroyed competition and produced a magnificent monopoly. He falsely likened his

cutthroat methods to the method of the florist who nips many buds from a bush in order that a single magnificent American Beauty rose may be produced.

Fourth, in the good analogy *there is no point of crucial difference*. This is true in likening the general culture level of nature peoples of to-day to that of our remote ancestors. A notable case of failure to observe basic differences is found in Spencer's famous analogy of society and an organism, a comparison which he developed to the extent of many pages in his *Principles of Sociology*, and which he found to have so many points that he concluded that society actually is an organism. In doing this, as Professor Ward pointed out, Spencer neglected several basic points of difference. Among these are the facts that the units of a society are discrete, while those of an organism are concrete; that all units of a society are sensitive, while those of an organism are not; that society is asymmetrical, while organisms are symmetrical; and that human societies have language, religion, contract, and migration, all of which are lacking in organisms.

In the four analogies which we have characterized as good the comparison is valid, not because one thing resembles in many respects another to which it is compared, but because the two things are members of a general class which includes both. Thus Congress and the legislature both belong to the class "deliberative assembly," the two historic upheavals belong to the general class "revolution," trade union and employers' association are both voluntary economic associations, and the Fuegians and the men of the Old Stone Age are alike in being groups of normal individuals who have not added the veneer of civilization to their primitive ways.

It is important to bear in mind the sources of strength and weakness in analogy, because analogy is an extremely common form of reasoning. Probably not a day passes in

which some one does not offer each of us as argument some kind of analogy. Sometimes this is in the form of traditional superstition. Thus it is said that Friday is unlucky because the crucifixion occurred on that day. Sometimes it takes the shape of a proverb. So we are assured that "Every cloud has a silver lining" and "It's a short lane that has no turning." Analogy is also often used to furnish a simple illustration of a complex situation which it is hard to make clear. Occasionally this is done by means of allegory, as in the fables of Æsop. Often it is done by parable, as in the New Testament. Frequently it is done by making up an analogy to fit a situation as it arises. All these devices are highly useful methods of exposition. Most persons can understand allegories and parables far better than they can generalizations. So, too, the child can understand why light and shadow appear on a ball as it is rotated in the presence of a lamp, and can then comprehend the cause of the sequence of day and night far easier than without the aid of such an analogy.

Use of analogy as proverb or illustration is, however, subject to one grave danger. This is that one may forget that neither the proverb nor the illustration is a valid scientific argument, and may try to reason from the illustration to a general principle. Thus one may compare the crude art of savages to the rough artistic products of young children, and then may argue falsely that the mind of the savage, like that of the child, is of very limited capacity.

This warning against analogy as argument is the more important because analogy is one of the most common forms of extemporaneous and even of planned argument. So, for instance, for better or worse, we are faced with such reasoning as this: "If it is improper for a government to own and operate a water-power plant, why is it not improper for it to own and operate its drinking water plant?"

Although analogy is a very dangerous means by which to leap to a conclusion, it is often highly useful in giving clues to discoveries which are really made by other processes. This is often true when the points of resemblance between the objects compared seem far to outnumber the points of difference, and especially when they seem to the observer to be basic, rather than superficial. Thus, for example, the fact of variation of plants and animals under domestication suggested to Darwin that possibly analogous variations in a state of nature would explain the existence of varieties of wild plants and animals. From this possible explanation of the origin of varieties, Darwin also inferred by analogy that possibly in like manner explanation could be made of the origin of species. Darwin did not attempt to prove his case by analogy, it must be noted. Once he had his hypothesis, he proceeded to develop and test it by the most rigid of inductive and deductive methods.

The worth of any analogy is to be determined, it must be repeated, by noting points of diversity as well as points of resemblance, and by then weighing both. The number of points in an analogy is not so significant as the nature of those points. All Spencer's elaborate comparison of parts of society to the several parts of an organism availed nothing by way of proof in the face of the few important points at which the analogy broke down.

We must now advert to two modes of study much used in the social sciences, the comparative method and the genetic method. The comparative method is used when two sets of data are compared or contrasted, or when several stages of the same phenomenon are contrasted. The general nature of the technique is familiar to us through comparative anatomy, in which parallel study is made of the body of the cat and the human, for example, or of the body of the infant, the child, the adolescent, and the adult.

The genetic method is the process of seeking to trace a phenomenon to its origin, as the English common law, the protective tariff, or the institution of monogamy.

The genetic and comparative methods, together with the technique of criticism of sources, constitute the historical method. The subject of criticism of sources will be considered in detail in later chapters. Meanwhile we shall here devote ourselves to an examination of the comparative method.

Good comparative studies are often very fruitful. The method has frequently been abused in the social sciences, however, through comparison of phenomena which had little or nothing in common. Thus comparison of the mind of the savage to that of the child was long associated with serious misunderstanding of nature peoples.

The fallacy in this kind of comparison rises from faulty analogy. A few points of resemblance are overvalued and basic points of difference are neglected. In this manner explorers who falsely assumed that all Jews had prominent noses inferred that certain savage peoples whom they visited and who possessed this characteristic must be descendants of the ten lost tribes of Israel.

Researchers of social origins have often been led astray by careless use of the comparative method, in connection with the problem of origin of elements in culture, such as languages, institutions, traditions, and the practical arts. There are two possible explanations of the origin in a group of any one of these things, such, for example, as the manufacture of pottery. This art might have been originated independently in the group, or it might have been received through diffusion from other groups. There is no doubt that both processes have frequently taken place, though in many cases it is uncertain which is the true origin of a particular detail of a culture.

In attempts to find an explanation of the culture of particular peoples there has been much loose reasoning. Because of a few or even a single striking point of resemblance, extreme diffusionists have filled volumes with efforts to prove common origin or contact of two primitive groups in widely separated parts of the world, with great intervening areas occupied by quite different cultures. Illustration is found in Elliot Smith's theory that a megalithic culture originated in Egypt in the eighth century B.C., diffused over the Mediterranean region and southern Asia, and thence via the islands of the Pacific to Mexico and Peru.²

In such cases the scientifically minded layman has to agree that the weight of evidence and probability seems to be overwhelmingly with those who deny the validity of a comparative method based on so slender an array of data.

A common abuse of the comparative method is the so-called "comparative method of anthropology," a device of the pioneer sociologist, Herbert Spencer. Although this is a singularly naïve method of reasoning, it was for many years uncritically accepted by students of society, probably because of the prestige which it derived from its inventor. Spencer had originated a detailed theory of the process of social evolution, a theory spun in his study, rather than suggested by profound knowledge of primitive peoples. This theory he developed and presented to the world. He did not proceed, however, by critical appraisal of the theory and of his data. On the contrary, he seems to have assumed his theory. He then employed readers to go through all available literature on primitive peoples, took uncritically the data which they collected, and simply cited them

² Cf. Alexander A. Goldenweiser, *Early Civilization* (Alfred A. Knopf, New York; George C. Harrop and Company Ltd., London, 1922), p. 311.

in his works as illustrations of his theory. Thus, to take at random a typical paragraph from his writings, we read:

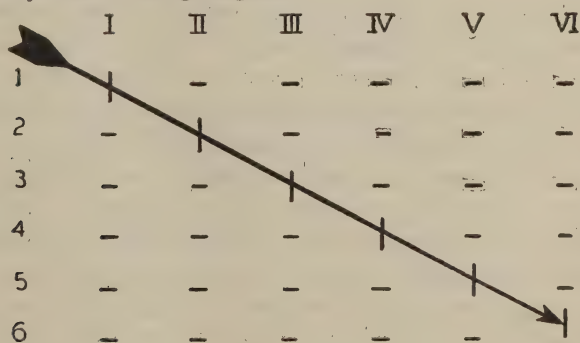
... the sacrificing of wives, of slaves, of friends . . . develops as society advances through its earlier stages, and the theory of another life becomes more definite. Among the Fuegians, the Andamanese, the Australians, the Tasmanians, with their rudimentary social organizations, the sacrifice of wives to accompany dead husbands, if it occurs at all, is not general enough to be specified in the accounts given of them. But it is a practice shown us by more advanced peoples: in Polynesia, by the New Caledonians, by the Fijians, and occasionally by the less barbarous Tongans—in America, by the Chinooks, the Caribs, the Dakotahs—in Africa, by the Congo people, the Inland Negroes, the Coast Negroes, and most extensively by the Dahomans.³

"This method," as Goldenweiser remarked, "if used uncritically could be made to yield proof of any theory of social development whatsoever."

The precise reason why modern anthropologists reject the method is well shown in Goldenweiser's trenchant criticism, which we present in his own words.

The essential principle of the comparative method can be illustrated by the following diagram:

	I	II	III	IV	V	VI
1		-	-	-	-	-
2	-		-	-	-	-
3	-	-		-	-	-
4	-	-	-		-	-
5	-	-	-	-		-
6	-	-	-	-	-	



³ Herbert Spencer, *Principles of Sociology* (D. Appleton and Company, New York, 1900-01), Vol. I, p. 204.

Suppose I, II, . . . represent tribes in different parts of the world, and 1, 2, . . . stages in the development of an institution or form of society or religion; vertical lines stand for the presence, horizontal ones for the absence, of a stage in a particular tribe. Now suppose stage 1 is illustrated by an example from tribe I, stage 2 by one from tribe II, etc. What the classical evolutionist did was to connect stages 1, 2, . . . , 6, each exemplified in one of the six tribes, into a chronologically successive series of stages. Thus, he claimed, the evolutionary theory stood vindicated. As a matter of fact, however, each one of the stages belongs to a different historic series, that, namely, of the tribe in which it is found. What then would be the only possible justification of the evolutionist's procedure? It would consist in the assumption that the stages of development in the six tribes are identical. If so much is taken for granted then the particular stages of development in the six tribes are interchangeable and it becomes possible to construct a chronologically successive series out of the bits of evidence unearthed by the evolutionist. But is not the assumption of the identity of developmental stages in different tribes one of the fundamental principles of social evolution? Thus the theory of evolution must be accepted as a postulate before the comparative method can be used. It follows that the results of this method cannot be regarded as proof but merely as a series of illustrations of a postulated evolutionary theory.⁴

We have now completed our survey of analogy and of the methods which are based upon it. Before we leave the subject of logic, however, a few words must be said regarding the relation of induction, deduction, and analogy to each other. Frequently men speak of induction as "the method of science," as though deduction and analogy had no place among the working tools of scientists. It is not hard to find the probable origin of this attitude. Deduction has been in ill-repute because the medieval schoolmen, who were masters of all the intricacies of the syllogism, were very uncritical in their selection of premises. Analogy,

⁴ Goldenweiser, *op. cit.*, pp. 22-23.

furthermore, has been in disrepute because it has so long been the tool of careless and emotional thinkers. In truth, however, all three of these processes are phases of a single scientific method, and all are essential to fruitful thinking. Analogy suggests clues. Induction gives principles. Deduction gives applications of principles. Thus, for example, after reading Malthus's *Essay on Population*, Darwin used the process of analogy and reasoned that since limitation of the food supply causes the death of large numbers of human beings, it must also cause countless plants and animals to perish. This inference led him to wonder which ones would perish, and which would survive, and gave him the clew to the theory of natural selection. Induction next gave him data on which to base his theory of selection, and deduction finally made possible his application of the theory to man, an application which he later developed by further inductive study.

It is sometimes asserted that the scientist is no better than the schoolman, because all his science rests upon assumptions. It is indeed true that science rests upon such postulates as the conservation of energy and the uniformity of nature. The scientist differs from the schoolman in one vital respect, however. The true scientist is always ready to examine his premises, be they Newton's laws of motion or the theory of the inheritance of acquired characteristics, while the true schoolman considers any proposal to examine his premises to be intolerable heresy.

Of course much of our everyday reasoning is based upon premises which are unproved. We assume that our baker sells us unadulterated bread, that our banker will not run away with our money, and that our garage man is a competent mechanic. We therefore make the deductions that we can safely trust ourselves and our property to them. We make these deductions because we are practi-

cally forced to do so. We have to buy or to go without food, we have to carry a bank account or hoard our money, we have to trust the garage man or try to make all our own repairs. Plainly the alternative which requires us to trust our fellow-men is the more practical. It is, indeed, the only way of making action or even life itself possible. We are therefore fully justified in carrying out many chains of reasoning and action on unproved premises.

This is not the last word on the subject, however. It frequently happens that our premises are false and that consequently our conclusions are unsound. The trusted baker may sell us adulterated bread, the banker may abscond with our savings, the garage man may smoke at work and destroy our car by fire. Obviously, then, we cannot afford to be contented with unverified premises, when important matters are at stake. The most that we can wisely do under such circumstances is to hold our premises tentatively, meanwhile striving to make sure, by the method of induction, that the baker is honest, that the banker is worthy to be trusted and that the garage man is competent.

We have now completed our study of formal logic. We have learned what inferences can be drawn from data which are in hand, and what principles must be observed when data are to be assembled with a view to generalizing from them. Now we must proceed to analyze further the methods of obtaining and interpreting data. We shall therefore continue this analysis in our next chapter, on assumptions and hypotheses.

CHAPTER IX

ASSUMPTIONS AND HYPOTHESES

A PASTORAL LETTER ¹

We invite your attention to the dangers which at present seem to threaten the female character with widespread and permanent injury.

The appropriate duties and influence of woman are clearly stated in the New Testament. Those duties and that influence are unobtrusive and private, but the source of mighty power. When the mild, dependent, softening influence of woman upon the sternness of man's opinions is fully exercised, society feels the effects of it in a thousand forms. The power of woman is her dependence, flowing from the consciousness of that weakness which God has given her for her protection, and which keeps her in those departments of life that form the character of individuals, and of the nation. There are social influences which females use in promoting piety and the great objects of Christian benevolence which we can not too highly commend.

We appreciate the unostentatious prayers and efforts of woman in advancing the cause of religion at home and abroad; in Sabbath-schools; in leading religious inquirers to the pastors for instruction; and in all such associated effort as becomes the modesty of her sex; and earnestly hope that she may abound more and more in these labors of piety and love. But when she assumes the place and tone of man as a public reformer, our care and protection of her seem unnecessary; we put ourselves in self-defense against her; she yields the power which God has given her for her protection, and her character becomes unnatural. If the vine, whose strength and beauty is to lean upon the trellis-

¹ Extract from a Pastoral Letter of the "General Association of Massachusetts (Orthodox) to the Churches under Their Care" (1837), *History of Woman Suffrage*, Elizabeth Cady Stanton, Susan B. Anthony, and Matilda Joslyn Gage, eds. (New York, 1881), Vol. I, pp. 81-82.

work, and half conceal its clusters, thinks to assume the independence and the overshadowing nature of the elm, it will not only cease to bear fruit, but fall in shame and dishonor into the dust. We can not, therefore, but regret the mistaken conduct of those who encourage females to bear an obtrusive and ostentatious part in measures of reform, and countenance any of that sex who so far forget themselves as to itinerate in the character of public lecturers and teachers. We especially deplore the intimate acquaintance and promiscuous conversation of females with regard to things which ought not to be named; by which that modesty and delicacy which is the charm of domestic life, and which constitutes the true influence of woman in society, is consumed, and the way opened, as we apprehend, for degeneracy and ruin.

We say these things not to discourage proper influences against sin, but to secure such reformation as we believe is Scriptural, and will be permanent.

MAN AND WOMAN ²

A precise knowledge of the actual facts of the life of men and women forbids us to dogmatize rigidly concerning the respective spheres of men and women. It is a matter which experience alone can demonstrate in detail. If this is not exactly the result which we set out to attain, it is still a result of very considerable importance. It lays the axe at the root of many pseudo-scientific superstitions. It clears the ground of much unnecessary verbiage and fruitless discussion, and enables us to see more clearly the really essential points at issue. The small group of women who wish to prove the absolute inferiority of the male sex, the larger group of men who wish to circumscribe rigidly the sphere of women, must alike be ruled out of court. Nor may we listen to those would-be scientific dogmatists who on *a priori* grounds, on the strength of some single and often doubtful anatomical fact, lay down social laws for mankind at large. The ludicrous errors of arrogant and over-hasty brain anatomists in the past should alone suffice to teach us this caution. The facts are far too complex to enable us to rush hastily to a conclusion as to their significance. The facts, moreover, are so numerous that even when we

² Havelock Ellis, *Man and Woman*, 4th ed. (Charles Scribner's Sons, New York; Walter Scott Publishing Company, London, 1904), pp. 441-442, 453, viii-ix, abridged.

have ascertained the precise significance of some one fact, we cannot be sure that it is not contradicted by other facts. And so many of the facts are modifiable under a changing environment that in the absence of experience we cannot pronounce definitely regarding the behaviour of either the male or female organism under different conditions. There is but one tribunal whose sentence is final and without appeal. Only Nature can pronounce concerning the legitimacy of social modifications. The sentence may be sterility or death, but no other tribunal, no appeal to common-sense, will serve instead.

Our investigation, therefore, shows us in what state of mind we ought to approach the whole problem; it can scarcely be said that it gives us the definite solution of definite problems. It is not on that account fruitless. There is distinct advantage in clearing away, so far as we can, the thick undergrowth of prepossession and superstition which flourishes in the region we have traversed to a greater extent than in any other region. It is something to have asked the right question, and to be set on the right road. It is something, also, to realize that we may disregard the assertions, or even the facts, of those who have not faced all the difficulties that must be encountered. At the very least it seems impossible to follow the paths we have here traversed without gaining a more vivid and tolerant insight into what for us must always be the two most interesting beings in the world.

In these fields our knowledge is still very young. The sciences of human life have been the latest of all to gain self-consciousness. Anthropology is not two centuries old; scientific psychology is not half a century old. Before this century has passed, it may safely be asserted, human knowledge in regard to all the subjects covered by this little book will be accurate and extensive to a degree we can now scarcely conceive, and the attempts of a pioneer to stumble across an uncultivated field will have been forgotten, or only passingly remembered as one of the milestones of progress.

An *assumption* is simply an opinion the truth of which is taken for granted. Thus it is an assumption on the part of the patient that his physician wishes to cure his illness and that the druggist gives him what the physician orders. The teacher of solid geometry begins his course with the

assumption that his students understand the principles of plane geometry. The prime minister embarks upon a policy with the assumption that his party will support him.

The term *hypothesis* may be defined as a preliminary guess at the truth, based on limited evidence or even on mere suspicion, but which its maker intends to subject to rigid tests. Examples of hypotheses are found in the view that the interior of the earth is in a solid state, the idea that childhood is the best time for learning languages, and the theory that supervised probation is a desirable means of dealing with juvenile delinquents.

The great difference between the assumption and the hypothesis is found in this matter of intent to submit to test. Unlike the hypothesis-maker, the maker of a simple assumption does not feel that it is necessary to test his view. Ordinarily, indeed, he is so complacent in his assumption-making that the idea of testing his view never even occurs to him, and it may not even occur to him that there is the slightest difference between his assumption and an established fact. The "Pastoral Letter" well illustrates assumption, while the statements of Havelock Ellis admirably set forth the method and the spirit of the hypothesis maker.

Assumptions and hypotheses are rarely as obviously different as are those which we have quoted. While theoretically there is a great difference between the hypothesis and the assumption, in practice it may be very difficult to say whether a particular view is one or the other. An opinion which is originally held as an hypothesis may presently become in my mind a simple assumption, for instance, that my new acquaintance is thoroughly trustworthy. On the other hand, that which I once held as an unchallenged assumption, the excellence of highly centralized government, for example, may presently be held as an hypothesis which I believe must be verified.

Sometimes a false assumption does no great harm. Such was the case when a young woman assumed that the trim-looking youth who went past her door every morning carrying a professional-looking satchel must be a medical man. One day she called him in, showed him her son's swollen ankle, and asked his advice. "This looks serious," he said. "You had better call a physician." "What! Aren't you a doctor!" she exclaimed. "No, madam," was the reply, "I am a piano tuner." Often, however, it makes much difference whether or not our assumptions are true. If they are true all goes well, but if the physician is murderous or the druggist careless, if the students do not know plane geometry or if the political party is not loyal, something presently goes seriously wrong. False assumptions have often caused unmeasured evil: witness the influence of the beliefs that the king can do no wrong, since he rules by divine right; that that is the best government which does least; and that national prosperity is brought to a maximum by importing as little and exporting as much as possible.

There is one false assumption, commonly made in popular consideration of social problems, which is so serious that it deserves special notice. This is the fallacy that social phenomena are relatively simple, so that relatively direct measures will remedy social disorders. This error we shall expose by showing that, on the contrary, social phenomena are extremely complex, and require roundabout modes of control. Darwin pointed out many striking illustrations of complexity in the biological world, such, for instance, as the fact that there is an intimate relation between the number of cats in a district and the size of the crop of red clover. This apparent absurdity becomes an obvious truth when the several links in the chain of relationship are considered. J. Arthur Thomson quoted Darwin and commented on his statement in the following words:

"I have . . . found that the visits of bees are necessary for the fertilization of some kinds of clover—thus, 100 heads of red clover (*Trifolium pratense*) produced 27,000 seeds, but the same number of protected heads produced not a single seed. Humble-bees alone visit red clover, as other bees cannot reach the nectar. . . . Hence we may infer as highly probable that, if the whole genus of humble-bees became extinct or very rare in England, the heart's-ease and red clover would become very rare, or wholly disappear. . . . The number of humble-bees in any district depends in a great measure on the number of field-mice, which destroy their combs and nests. . . . Colonel Newman says: 'Near villages and small towns I have found the nests of humble-bees more numerous than elsewhere, which I attribute to the number of cats that destroy the mice.' " Thus we may say, with Darwin, that next year's crop of purple clover is influenced by the number of humble-bees in the district, which varies with the number of field mice; that is to say, with the abundance of cats!"³

After noting such an example of the "web of life" we shall have little difficulty in perceiving that social phenomena are likewise dependent one upon another. Every situation is the result of complex causes, beginning at points so remote in time and space that they cannot be fully traced, and extending both into the farthest corners of the earth and into eras beyond the power of the imagination to fathom. Consider the Civil War as an example. Among other more or less remote causes stand out the differences of climate and therefore of industry between North and South, the introduction of slavery in the Colonies, the invention of the power-loom and other textile-making machines, the invention of the cotton gin, the unprofitableness of slavery in the North, the belief in the sovereignty of the states, and the rise of the belief in the indestructibility of the Union. It is not too much to say that without any one of these antecedent conditions the conflict could

³ J. Arthur Thomson, *Darwinism and Human Life* (Henry Holt and Company, New York; Thornton Butterworth, Ltd., London, 1911), p. 53.

hardly have occurred. He, then, who attempts fully to understand the Civil War without attending to these and other causes will get at best only an incomplete and distorted picture.

The results of the War, on the other hand, were far-reaching. They were not simply destruction of life and property and the emancipation of the slaves. They included a grave injury to the physique of the American people, through the death of much of the flower of the nation's manhood, and a period of reconstruction which created a great gulf between white and black, gave rise to the politically "solid South" and bequeathed to the future a race problem that bids fair to remain unsolved for generations.

Illustrations of this sort might be multiplied endlessly. Such bad conditions as improper housing and inadequate care of mental defectives, for instance, such good conditions as adequate schools and abundant recreational facilities, have far-reaching effects to which we can assign no limits. The poet was truly scientific when he declared,

Our echoes roll from soul to soul,
And grow for ever and for ever.

This fact of the complexity of social phenomena needs to be stressed still further because it is often ignored by the person who is eager for social reform. Herbert Spencer compared such an individual to a man intent on repairing a tin pan with a dent in it. In an effort to remove the defect he hits it with a hammer. The blow overcomes the dent but is at the same time a cause of new dents. The old dent disappears but others take its place. Only skillful, gentle tapping, not directly on the dents but around them, finally removes the defects. In such a manner as this, said Spencer, some social reformers make direct and equally unsuccessful attacks upon social evils.

A few cases close at hand may be noted to advantage, by way of illustration. The dent of the saloon was hit with the hammer of prohibition and the dents of bootlegging and contempt for law appeared. The dent of alleged injustice was hit with the hammer of war by the nations of Europe, and the dents of slaughter, hunger, disease, rapine, poverty, and hatred appeared. The dent of French national poverty was struck with the hammer of the reparation clauses of the Treaty of Versailles, and there appeared the dent of German failure to pay as exacted. The dent of failure to pay as exacted was struck with the hammer of military occupation of the Ruhr and it grew into the dent of failure to pay anything, while the new dents of increased hostility, passive resistance, and impending bankruptcy appeared. Only as the more gentle tapping of the Locarno treaties and the Dawes Plan were tried did prospects emerge of stable adjustments in Western Europe, and it is probable that even more conciliatory measures will be the ultimate means of bringing about true reconciliation and justice.

Writing on a kindred topic in 1915, Norman Angell admirably pointed out these facts of social complexity and interdependence when he remarked:

At the present time we are talking, for instance, of "capturing" German or British or French trade.

Now, when we talk thus of "German" trade in the international field, what do we mean? Here is the ironmaster in Essen making locomotives for a light railway in an Argentine province, (the capital for which has been subscribed in Paris)—which has become necessary because of the export of wool to Bradford, where the trade has developed owing to sales in the United States, due to high prices produced by the destruction of sheep runs, owing to the agricultural development of the West.

But for the money found in Paris, (due, perhaps, to good crops in wine and olives, sold mainly in London and New York,) and the wool needed by the Bradford manufacturer, (who has found

a market for blankets among miners in Montana, who are smelting copper for a cable to China, which is needed because the encouragement given to education by the Chinese Republic has caused Chinese newspapers to print cable news from Europe)—but for such factors as these, and a whole chain of equally interdependent ones throughout the world, the ironmaster in Essen would not have been able to sell his locomotives.

How, therefore, can you describe it as part of the trade of "Germany" which is in competition with the trade of "Britain" or "France" or "America"? But for the British, French, and American trade, it could not have existed at all. You may say that if the Essen ironmaster could have been prevented from selling his locomotives the order would have gone to an American one.

But this community of German workmen, called into existence by the Argentina trade, maintains by its consumption of coffee a plantation in Brazil, which buys its machinery in Chicago. The destruction, therefore, of the Essen trade, while it might have given business to the American locomotive maker, would have taken it from, say, an American agricultural implement maker. The economic interests involved sort themselves, irrespective of the national groupings.⁴

In the light of all these examples it is unnecessary to argue further that the scientifically minded man will think of the subject of his study not as an isolated phenomenon, but as inextricably linked with hosts of others, both antecedent and subsequent, and that unless he appraises more carefully than do most men all the elements in the situation, he is likely to be unpleasantly surprised by the results of any action which may be based on his observation.

These facts do not indicate that we should make no assumptions. It is impossible to carry on the most elementary activities of life without assumption-making. Rather do they indicate that we must strive to make only true assumptions.

This necessity leads us to inquire why men so frequently

⁴ Norman Angell, *New York Times*, Feb. 28, 1915, Magazine Section, p. 1.

start their reasoning processes with false assumptions. The answer to this question is simple. False assumptions are usually the result of bias or of ignorance. The preventive program is therefore obvious to us. It consists, first, in developing our attack upon bias; second, in striving to avoid making important assumptions without being aware of what we are doing; and, third, in extending our general educational program. The first two points have been adequately treated already, the last requires no development here.

While the hypothesis-maker is usually more cautious than is the assumption-maker, he nevertheless frequently gets off his guard and forgets, with disastrous results, that he is not dealing with established facts. This sometimes occurs when an hypothesis is held so long and so serenely that its tentative nature is not held in mind. It may also happen when an hypothesis is ardently advocated or defended against attack. Such an hypothesis frequently starts, even as do those most tentatively held, simply as a guess. The question rises in the citizen's mind, for example, "Why did Senator Slick vote for the Muscle Shoals Bill?" Immediately an answer presents itself, "Maybe there was something in it for him." The hypothesis seems plausible, the more so because it is common knowledge that legislators frequently engage in logrolling, and have even been guilty of accepting bribes. The hypothesis-maker is now on his way up what James called the "faith-ladder." He proceeds to reason in the following manner:

1. There is nothing absurd in a certain view of the world being true, nothing self-contradictory;
2. It *might* have been true under certain conditions;
3. It *may* be true, even now;
4. It is *fit* to be true;
5. It *ought* to be true;

6. It *must* be true;
7. It *shall* be true, at any rate for *me*.⁵

At some time in his ascent of the faith-ladder the hypothesis-maker shares his suspicions with a friend. If the friend thinks them valid, the hypothesis-maker is helped on his way. If, on the other hand, the friend thinks them unreasonable, the hypothesis-maker often considers himself under obligation to justify his theory. He may therefore develop his ideas, displaying them in a favorable light and reiterating them as forcefully as he can, and mounting ever higher and higher on the ladder. Presently, unless his friend marshals overwhelming evidence to the contrary, he has often convinced himself, at least, of the truth of his hypothesis. It is now no longer a guess for him, it is a fact. In these ways, in part, grew and spread such beliefs as that many war-time fires in the United States were set by German agents, that post-war strikes were fomented by Bolsheviks, that our colleges are full of dangerously radical teachers, that the revelation of the Teapot Dome scandal was simply an effort to make political capital and was based solely on the testimony of notorious liars.

Another and very serious danger of hypothesis-making

⁵ William James, *Some Problems of Philosophy* (Longmans, Green and Company, New York, 1911), p. 224. It may seem to the reader who consults James's article that the position taken in this book is in opposition to that of James. This is not the case, however. James does indeed argue for the use of faith under certain conditions, but he does not say that it is a satisfactory substitute for scientific knowledge. He simply says that sometimes when it is impossible to get scientific proof, it is nevertheless necessary to act as though one had certain knowledge. In order to live successfully, for example, one must have faith in the integrity of his family and of his business associates. This is true. What James really advocates is therefore simply the use of working hypotheses, though they may often be hypotheses which can never be verified. With this view the present chapter is in perfect harmony.

is the tendency of alleged investigators to begin work with a carefully formulated hypothesis which they set out to prove by finding facts in its support. Illustration is furnished by the youth who has been trained to accept a particular religious creed and who, as he grows up, spends his time in searching the Bible, not in order to get the truth, but in order to find material in support of his position. He is, as one man expressed it, far more eager to prove that God is on his side than he is to make sure that he is on God's side! Such is also the position of the ordinary political partisan. He assumes that his party is right, and very seldom considers a political proposition on its merits. Instead he simply studies the record of his and of opposing parties to find evidence in support of his position. Many persons put themselves in this class. They refuse to recognize weaknesses in their own case, or to strengthen it by restricting the scope of their assertions. One is reminded, as he observes them, of the episode in which Don Quixote tested his suit of armor. After the foolish knight had repaired an old helmet with pasteboard, he dealt it a smashing blow with his sword to test it. The pasteboard, of course, collapsed. Quixote again repaired with the same material, but did not submit the work to a second test. Instead he simply "resolved it should pass to all intents and purposes for a full and sufficient helmet."

The most important part of our study of the hypothesis remains before us. It is that of learning how to use this tool without injuring either our work or ourselves with it. This entails learning four things. First, we must school ourselves never to forget that an hypothesis, though long held, is still an hypothesis and not an established fact. Second, we must get the habit of moderation in our advocacy of hypotheses. Third, we must learn not to formulate hypotheses and then set out to prove them at all costs.

Finally, we must find out how to distinguish good from poor hypotheses. A few suggestions can be made on these points, though of course mastery will come, not from reading but from long practice, especially under the guidance of more experienced persons.

The problems of remembering that an hypothesis is an hypothesis and of moderation in the support of hypotheses are solved to the extent that one truly catches the scientific spirit. The real scientist works with others, not to gain a victory over them but to gain a victory over ignorance. Professor Ross admirably stated the attitude of the true scientist in the words:

So I offer this book with the wish that what in it is sound be promptly absorbed into the growth of the science, and the unsound be as promptly forgotten. Indeed, the swiftness of its disintegration will measure the rate of progress of the subject. If it is utterly superannuated in twenty years, that will be well; if, in ten years, it is a back number, that will be better. Perish the book, if only social psychology may go forward! Hence, I beg messieurs, the discreet critics, to lay to right heartily, remembering that in showing its errors they are triumphing *with* the author, not *over* him.⁶

How now is this fine scientific attitude to be attained? By practice, and only by practice. As J. Arthur Thomson well wrote:

By dint of hammering, one becomes a smith, and it is by doing scientific work that one cultivates the scientific habit of mind. . . . What is demanded is within reach of all who will habituate themselves in making sure of the facts, in precision of statement, in getting things clear, and in realizing the complexity of all situations. These qualities cannot be acquired passively; the kingdom of science must be taken by force. The scientific mood can

⁶ Edward Alsworth Ross, *Social Psychology* (Copyright, 1908, by The Macmillan Company, New York. Reprinted by permission), p. viii.

only be engendered by our being actively and energetically scientific.⁷

There remains to be made at this point one very concrete suggestion, which applies to the problem of remembering that an hypothesis is an hypothesis and that of avoiding adopting an hypothesis as something to be "proved" at any cost. This is the use of multiple hypotheses, that is, of working on several hypotheses at once. In studying the Ku Klux Klan, for instance, one might hold the hypothesis that the organization was a manifestation of war-time intolerance; that it was a sign of race prejudice, accentuated by the improving condition of the black man; that it was simply an outburst of lawlessness on the part of young men who used it as a pretext for satisfying through violence their desire for excitement; or that it was an honest effort of venomously maligned patriots to preserve from insidious menaces the best elements of our American tradition. One who would study the Ku Klux Klan with all of these and with many additional hypotheses before him would certainly come closer to the truth, and more quickly, than would the person who started with only one hypothesis, which he would be very much tempted to set out to "prove."

We shall leave for consideration in Chapter X the method of developing and testing hypotheses.

⁷ J. Arthur Thomson, *An Introduction to Science* (Henry Holt and Company, New York, 1911), pp. 33-34.

CHAPTER X

CIRCUMSTANTIAL EVIDENCE AND PROOF OF HYPOTHESES

THE CASE OF HENRY NITSCHKE ¹

A masked bandit one night held up a trolley car at the end of a suburban line. The conductor, Robert Crute, resisted the bandit and was killed. Several days later a suspect, one Henry Nitschke, was arrested. When he was brought to trial the following evidence was presented against him:

That as an employee of the Henderson Tire & Rubber Co., the prisoner had access to materials of the same kind as those which made up the uncanny black hood and apron which the murderer of Crute wore at the time of the killing, and were found on the scene after the murder;

That in Nitschke's room on John street was found black thread of the same kind as that used in sewing together this hood and apron;

That in Nitschke's room was found a bottle of hair tonic having the same odor as that noticed by the police in the hood worn by the murderer;

That Nitschke took at his room the same newspaper as formed the background for the hood and apron;

That Nitschke confessed to having been near the scene of the murder when it was committed and to having seen the flashes of the gun and a man supposed to have committed the killing;

That Nitschke was very nervous in telling of what he had seen;

That Nitschke ran away from the scene after the killing;

That Nitschke "anxiously" inquired of a number of people whether the murderer could be identified;

That the prisoner attempted to leave town four days after the murder, leaving behind him personal property, including \$12 due him from the Henderson Tire & Rubber Co.;

¹ Columbus (Ohio) *Dispatch*, Dec. 1, 1921, adapted.

That he slept in a corn field the Monday night following the murder and attempted to catch a freight train out of the city the following morning;

That the hood and apron fit him;

That he told several people that it was a shame that a Christian could not get a living and that he intended to get his if he had to take a gun to do it;

That he discussed with several people the possibilities of a hold-up on the storage dam line;

That the watchman of the Henderson plant where Nitschke [worked] lost a .32 caliber revolver with four bullets in it, and that the bullet which killed Crute was of the same caliber;

That Nitschke generally went to work at 6 o'clock in the evening but on the night of the murder, which occurred at about 10:10 o'clock, Nitschke did not report for work until 1:15 a.m.

Nitschke's defense was that he was out for a walk at the time of the hold-up. He testified that when he stood 750 feet from the scene of the murder, or at a railway semaphore, a colored man ran to him immediately after he had seen the shots fired. The colored man, he stated, told him that there had been a hold-up at the switch, and that he was going to get away from there. Nitschke stated that he ran because he was afraid of being killed himself by fleeing highwaymen.

In view of the facts which we shall see regarding the unreliability of testimony and written sources, it is fortunate that we have available another source of information which is in many respects more satisfactory. This source, illustrated by the case of Henry Nitschke, is known as indirect or "circumstantial" evidence. In this volume we have already made a number of incidental references to such evidence, but we have never stopped to consider its nature carefully. This we shall now do.

Circumstantial evidence consists of data obtained through observation, as opposed to data obtained through testimony. Sometimes this evidence consists in tangible things, as finger marks, blood stains, muddy shoes, broken locks, and the like. Sometimes it is found in the relations

of things, as the presence or absence of a person at a particular time or place, or similarity in two samples of handwriting. The method of use of circumstantial evidence for the purpose of drawing valid inferences may be shown by the following simple illustration.

A father enters his home late one summer afternoon. He finds the place quiet and apparently deserted. Here is a novel situation for which he wants an explanation. No one is present to give it to him. He has, therefore, to form an hypothesis for himself. Under such conditions the hypothesis may be suggested by observed facts or it may be made first and the facts examined later. In this particular case three hypotheses enter the father's mind in quick succession. First, the members of the family may be taking a nap. Second, they may have gone for a walk. Third, they may have gone for an automobile drive. These theories he must verify positively or negatively, positive verification being made when a theory is proved to be true, and negative verification occurring when it is demonstrated to be false. Which now of the three theories best conforms to the facts?

Answer to this question is obtained by adding to known facts relevant data which can be readily observed, and then making an inference by use of the hypothetical syllogism, as discussed in Chapter IV. The father makes a quick survey of the premises, gets essential data, and reasons in the following manner:

If the family were taking a nap, the children would be in their rooms. (*Known.*)

The children are not in their rooms. (*Observed.*)

Therefore, the family is not taking a nap. (*Inferred.*)

This process of reasoning, you will recall, is denying the consequent of an hypothetical syllogism, and it leads to a valid conclusion.

If the family were gone for a walk, the baby carriage would be missing. (*Known.*)

The baby carriage is not missing. (*Observed.*)

Therefore, the family has not gone for a walk. (*Inferred.*)

Here again denying the consequent leads to a valid conclusion.

If the family were gone for an automobile drive, the car would be missing. (*Known.*)

The car is missing. (*Observed.*)

Therefore, the family *may have gone* for an automobile drive. (*Inferred.*)

Note that this indefinite conclusion is the only one warranted by the premises. It would not be good logic to infer, "The family has gone for an automobile drive." To do so would be to commit the fallacy of trying to draw a definite conclusion after affirming the consequent of an hypothetical syllogism.

Since this fact is true, why does the father, a logical man, sit down on the porch to read, satisfied that he has found the explanation of the desertion of his home? Does he not know that although he has disproved some hypotheses, there are many possible explanations of the situation other than the one which he has simply not disproved? It may be that the car has been stolen, and that the entire family has gone to report the theft to the police. Or perhaps the mother has given the car away, and then in remorse has hidden herself in the cellar with the children. Such hypotheses seem improbable, as indeed they are, but until they and all possible alternatives have been examined and disproved, it would be false to say that the automobile drive hypothesis had been absolutely established.

The basis of the father's inference is analogy. He observes conditions which are analogous to those which would be present if the family had gone for a drive and he reasons

accordingly. But these conditions are also analogous to those which would be present had the car been stolen or given away. Why, then, does the father act as though his theory were proved? He does it in the light of three relevant principles, which scientists have learned by long experience. First, when an hypothesis explains observed facts which would otherwise be meaningless, that power to explain is an argument in favor of that hypothesis. Second, that one of several hypotheses is most probably true which most adequately explains the observed facts. Third, of several hypotheses which explain observed facts equally well, that one is probably true which is the simplest.

Now it is plain that of the three hypotheses which we have noted as explaining the absence of the car, the drive hypothesis offers the simplest and most adequate explanation, in that it is most in harmony with general human experience and requires the fewest supplementary assumptions to support it. It is, to be sure, a conclusion based on analogy, but it is based on analogy such as we use safely every day.

Now we are ready to note in outline form the complete process of using hypotheses. As we do this it is well to bear in mind that if several hypotheses are formulated at the beginning of a research there will be a minimum of danger that the investigator will try to force the evidence to fit his hypotheses.² The several steps indicated are not necessarily made in the order given, but at some time in the reasoning process each will have to be taken.

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|--|---|
| 1. State the problem. | (An apparently deserted home requires explanation.) |
| 2. State Hypothesis 1. | (The family is taking a nap.) |
| 3. State deductions from Hypothesis 1. | (The children will be in their rooms.) |

² See *supra*, pp. 216-218.

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|---|--|
| 4. State evidence for or against deductions. | (The children are not in their rooms.) |
| 5. Accept or reject Hypothesis 1. | (Hypothesis rejected.) |
| 6. State Hypothesis 2. | (The family has gone for a walk.) |
| 7. State deductions from Hypothesis 2. | (The baby carriage will be missing.) |
| 8. State evidence for or against deductions. | (The baby carriage is not missing.) |
| 9. Accept or reject Hypothesis 2. | (Hypothesis rejected.) |
| 10. Continue in like manner till an hypothesis is found which can at least tentatively be accepted. | |

As we leave this subject of testing hypotheses it is essential to note that hypotheses are often verified by means other than observation. Sometimes, of course, this is done by experimentation, as in the study of the effect of whisky upon the puppies.³ Often it is done by statistical calculation, as in the study of the effect of transporting the children of the slums from London to Canada.⁴ Frequently it is done by elimination, as in the effort to determine the cause of the illness of the supper company.⁵ Occasionally it is done by disjunctive reasoning. Thus it was reasoned in the case of the Aldrich Wage Report: ⁶

Either this report is worthless or what we believe that we know of statistical method is false.

But what we know of statistical method is not false.

Therefore, this report is worthless.

³ See *supra*, p. 169.

⁴ See *supra*, pp. 171-172.

⁵ See *supra*, p. 175.

⁶ See *supra*, p. 145.

Actually, of course, the method used in a single study may be classed under several of these headings. Thus the study of the cause of yellow fever in Chapter VII used both the method of experimentation and the method of elimination.

Now we are ready to go on to note the strength and the weakness of circumstantial evidence. Both are well illustrated by our simple case of the deserted home. Its strength rests in the fact that the investigator does not have to rely upon fallible and possibly dishonest witnesses. Circumstances do not lie. Its weakness rests in the fact that the observer may make unwarranted inferences from his observations. Sometimes this is purely the fault of the observer, as in the case of the woman who inferred that the piano tuner who carried the satchel was a physician. Sometimes, too, it is the result of dishonest propaganda, as when a small boy who has consumed a pitcher of cream found on the kitchen table lays the pitcher on its side on the floor and places the innocent family cat beside it.

These dangers are very real, but they are not as grave as are the dangers of direct testimony alone. While, therefore, most men are inclined to place far more trust in direct than in indirect evidence, lawyers and logicians are inclined rather to place more trust in circumstantial evidence.

In many cases, as we know, circumstantial evidence is not observed directly by the investigator, but is reported to him. In such cases, of course, it is necessary to determine the reliability of the witness as well as to decide what inference, if any, can be made from the facts which he reports. This would be true, for example, in case a witness testified in court that he had observed a certain person running away from the scene of a crime.

Circumstantial evidence is very commonly used in our

daily lives. We employ it to test the desirability of a prospective employer or employee. What he promises is significant, but what he has done and what he has not done means far more. Circumstantial evidence should likewise be applied to public servants. It is unfortunate, however, that very many persons judge a candidate by his preëlection promises, rather than by his record, and that party records are even less carefully tested than are those of individuals. This is no doubt partly because, as stated in the introduction to Chapter I, we lack both training and time for critical analysis. It is also partly because our minds can not long carry the details of a political record, so that memory stands a poor chance against a flamboyant party platform or a campaign spellbinder.

In 1928, for example, the platform of a leading political party contained a plank advocating "non-interference with the elections and other internal affairs of any foreign nation," and mentioned Nicaragua by name. When they read that plank how many citizens recalled, if indeed they ever knew, that within a year the majority of the United States senators of that party had by their votes endorsed the very opposite of this policy?

We shall now consider some of the common types of circumstantial evidence. The fact of failure to speak is often very meaningful, though precisely what its import may be it is not always easy or even possible to state. Use of such evidence is well illustrated by the argument in 1928 of a pre-convention magazine article regarding a possible candidate for the presidency. Said the author, Oswald Garrison Villard:

. . . In 1919 a federal judge enjoined a national coal strike and based his action on the Lever Law. If Mr. ——— was shocked by this, as his intimates assert, he never betrayed this fact publicly.

But that again is one of his marked traits; Mr. ——— keeps silent when he wishes to do so. Here are some of the important matters about which he has not spoken out:

1. He has never said a word against the protective tariff or shown that he in any way comprehends its vital bearing on the foreign debts owed us, the plight of the farmer, or our export trade, or on the whole question of our international relations.

2. In the post-war period of hysteria and the red raids of Mitchell Palmer, he never said one word for sanity and the American policy of free speech and free assembly. Nor has he ever gone on record against the countless violations of our civil liberties.

3. He has never once denounced the oil-grafters or expressed any regret for the vast robbing of the public during the Harding regime.

4. In the face of the Illinois and Pennsylvania election scandals he is as silent as an oyster.

5. While he has protested by inference against the use of American loans to buy arms and ammunition for Central-American governments we are upholding, he has never voiced one sentiment which would give ground for the belief that he in any way disapproves our policy toward Mexico, or our killing of 3,500 Haitians by American marines (as attested by Major General Barnett of the marines), or our present bombing of Nicaraguan men, and probably women and children, on the ground that we are destroying "bandits."⁷ . . .

Silence is of course equally meaningful circumstantial evidence in the case of written sources. The fact, for example, that no contemporary source spoke of popular fear of the approaching end of the world about the year one thousand, is to historians convincing evidence that, contrary to belief among ourselves, no such sentiment prevailed at that time.⁸ The bias of the press must be borne in mind in drawing conclusions from silence; however, witness the fact that on occasion there have been in Los

⁷ Oswald Garrison Villard, *Nation*, Vol. CXXVI, pp. 236-237.

⁸ John Martin Vincent, *Historical Research* (Henry Holt and Company, New York, 1911), pp. 150-151.

Angeles tremors of the earth sufficient to draw the attention of the San Francisco press which Los Angeles papers have not mentioned. Again, the silence of the newspapers regarding unemployment in the winters of 1920-1921 and of 1927-1928 showed, not that unemployment was not widespread, but simply that the press did not care to give publicity to the situation.

The significant ignoring of important facts is usually revealed when two or more conflicting documents are brought together for purposes of comparison. It is both revealing and amusing to see, for example, how cheerfully and circumspectly Democrats and Republicans point out flaws in each other's records, while at the same maintaining a bland silence regarding the shortcomings of their own party.

In the next place, circumstantial evidence is often found in the nature of definite human acts. Two cases which we shall use to illustrate this truth exemplify also the generalization that it is often easy to interpret circumstantial evidence with moral and scientific though not necessarily with legal certainty. This fact is well shown by data of two cases, details of which were discovered in 1924 in the Senate investigation of the Naval Oil Leases.⁹ In the first case it appeared that the Pioneer Oil Company had entered into some kind of agreement with one John Leo Stack, under which he was to assist the company in obtaining a lease of Naval Reserve No. 3, or some portion of it. In return for this service, Stack was to have an interest in any lease which might be obtained by the company in the Reserve. Instead of carrying out its plans for obtaining a lease, however, the Pioneer Company presently entered into

⁹ Sixty-eighth Congress, First Session, Senate Report 794, *Leases Upon Naval Oil Reserves*, pp. 11-12. This paragraph and the one which follows are an adaptation from the report.

an agreement with one Harry F. Sinclair. Under the terms of this agreement, the Pioneer Company retired from the field as suitor for a lease, in consideration of payment by Sinclair of one million dollars for its utterly worthless claims to rights in the Reserve. Sinclair then proceeded to get a lease for himself.

When Stack learned of this transaction, he enlisted the interest of the owners of the *Denver Post*. Immediately upon the execution of the lease to Sinclair, this journal began the publication of articles denouncing it as corrupt and contrary to public policy. Stack and the newspaper proprietors also caused investigation to be made touching the relations of Sinclair with the Secretary of the Interior, Mr. Fall, through whom Sinclair had obtained the lease. They received a report of a damaging character. They then entered into an agreement by which the owners of the *Post* acquired an interest in Stack's claim against the Pioneer Oil Company. Suit was started in a state court of Colorado against both the Pioneer Company and Sinclair, alleging a conspiracy against Stack. Presently negotiations were begun between Stack and Sinclair, looking to a settlement of the case out of court. Immediately after these negotiations were begun, the *Post* abruptly ceased its attacks upon the Sinclair lease in Naval Reserve No. 3. Sinclair then settled the case by an agreement under which he paid \$250,000 and agreed to pay \$750,000 more. These sums, the chairman of the investigation committee remarked, were five times as much as Stack would have obtained had his contract with the Pioneer Company been carried out.¹⁰

¹⁰ *Hearings before the Committee on Public Lands and Surveys, United States Senate, Sixty-eighth Congress, First Session . . . for an Investigation of the Subject of Leases upon Naval Oil Reserves* (Government Printing Office, Washington, 1924), Part 7, pp. 1995-2058.

About this same time the proprietor of a rival Denver newspaper, the *Rocky Mountain News*, received as a gift from the directors of the Pioneer Oil Company one-eighth of the rights in leases which the Company might obtain in Naval Reserve No. 3. Thereafter he received \$92,500 of the money paid to the Pioneer Company by Sinclair. The resolution of the directors of the Pioneer Company stated that this payment was made because he "had performed services and expended moneys" on behalf of the company "for which he had received no compensation."¹¹ On the witness stand, however, the journalist denied that he had ever performed any service for the Company, and declared his belief that the gift was made to him because he had applied for a lease in the Reserve, and that if he got this lease he and the company would probably coöperate in the development of the Reserve.¹²

The facts stated in these cases have been established beyond doubt. They rest on the admissions of the newspaper men who were concerned. The question at issue is therefore simply that of the significance of the facts. This, however, can hardly be ambiguous to the unbiased investigator.

There remains to be noted here one more case of circumstantial evidence in human behavior. This illustration, which includes several bits of data, well demonstrates that it is sometimes impossible to infer with certainty from limited circumstantial evidence. On a summer day in 1927, President Coolidge gave newspaper correspondents slips of paper bearing the cryptic words, "I do not choose to run for President in 1928." From that day until after the Republican Convention of 1928 had nominated another as

¹¹ *Ibid.*, Part 8, p. 2207.

¹² *Ibid.*, p. 2214. The ownership of both the *Post* and the *News* has changed since these events occurred.

its standard bearer, the public and the press were left to speculate on the meaning of this announcement. Did it mean that Mr. Coolidge did not wish to run, but would do so if urged? Did it mean that under no circumstances would the President run again? Great effort was made to answer these and similar questions. First the public was treated to an analysis of the shade of meaning of the word "choose," as used by New Englanders. Then it was offered many kinds of circumstantial evidence presented bit by bit over a period of ten months, ranging all the way from the fact that the President did not enjoy a political fight to the report that Mrs. Coolidge had made a quilt on which appeared the arms of the United States and the words, "Calvin Coolidge, 1923-1929." Much was made of the fact that several times in the spring of 1928 Mr. Coolidge asked politicians to refrain from promoting his candidacy. To some this meant that the President had finally decided not to run. Others pointed out, on the contrary, that on no occasion did Mr. Coolidge unequivocally refuse to be a candidate. This they declared to be the tactics of one who did not intend to make it impossible for the party convention to "draft" him. All was unsatisfying by way of proof, however. Circumstantial evidence did not settle the matter. Even yet it can not be said that the world knows precisely what the President meant on that August morning.

In many cases involving the use of circumstantial evidence it is possible to use what is known as the principle of *convergence of evidence*, a corollary of the generalization that an analogy is most probably true when it consists of numerous and basic points of similarity. This principle is as follows: *Whenever a number of isolated and significant facts all point toward the truth of a theory and few or no significant facts point in a contrary direction, that*

theory may be considered tentatively established. The use of the principle is illustrated by the prosecution in the case of Henry Nitschke.

When we examine the logic of this case, we note that a number of independent facts, no one of which was supremely significant, pointed toward the guilt of the suspect. Any single one of them might have remained unexplained without carrying conviction of guilt. It may be suspicious for a city man to be walking on a lonely country highway at night, but there are circumstances under which one may do it with perfect propriety. It may seem incriminating for a man to attempt to leave town secretly, but such conduct is of itself neither illegal nor immoral. It may be unusual for a man to tell his fellows how he could hold up a trolley car, but many men make such remarks in jest. In spite of all these facts, however, it must be admitted that not one man in many thousands ever comes under suspicion as a murderer by reason of even one such circumstance as we have noted. When, then, a single individual has not one, but many such suspicious circumstances pointing toward his guilt, and when he can explain no one of them satisfactorily, the collective weight of all the evidence is overwhelming and the probability that he is innocent is practically zero.

In this particular case, too, we have supplementary evidence such as is not always present when there is convergence of evidence. This evidence is found in the circumstance that a number of otherwise meaningless facts become meaningful as soon as the hypothesis is made that the suspect is the murderer. Considered in isolation, the facts of the presence of the man on the highway, his "anxious" inquiry regarding the identification of the murderer, and his efforts to leave town secretly have no intelligible significance. Considered in the light of our hy-

pothesis, they at once become clear parts of a consistent whole.

In the case at hand the hypothesis that the suspect is the murderer is reasonable because it explains the observed facts better than does any alternative hypothesis. It seems also to be the simplest possible hypothesis. Thus we have our theory supported from two directions. The facts point to it and it explains the facts.

It is on the strength of convergence of circumstantial evidence and the power of an hypothesis to explain otherwise meaningless facts, that we have to decide such questions as those of the authenticity of the Protocols, the war guilt of the Czar and of the Kaiser, the culpability of the men responsible for the lease of Teapot Dome, and the relations with Moscow of American workers for peace. It is even on the strength of such evidence that scientists accept many of their most basic theories, such as the heliocentric theory and the theory of evolution.

Strictly speaking, of course, no theory can be proved by circumstantial evidence only. A theory could be proved in this way only if it were found to be consistent with all the known facts and if all other possible hypotheses had been examined and had been found to be incompatible with the facts. Naturally this is in practice impossible to do, for one can never be sure that he has examined all possible hypotheses. It is well to remember, also, that many a man has been falsely convicted and punished through what seemed at the time to be overwhelming circumstantial evidence.¹⁸

The greatest probability of attainment of the truth is reached when direct testimony and circumstantial evidence are used to support each other. Suppose, for example, that in our illustration the father is told by a trustworthy neigh-

¹⁸ Cf. *Nation*, Vol. CXXV, p. 620.

bor that he saw the family drive off in the automobile. Here direct testimony and circumstantial evidence are in harmony, and the probability of the conclusion approaches a certainty.

We are now ready to take up the subject of oral testimony in Chapter XI.

CHAPTER XI

ORAL TESTIMONY

THE TESTIMONY OF MARY E. SPLAINE¹

So far as the crime is concerned we are dealing with a conventional case of pay-roll robbery resulting in murder. At the trial the killing of Parmenter and Berardelli was undisputed. The only issue was the identity of the murderers. Were Sacco and Vanzetti two of the assailants of Parmenter and Berardelli, or were they not? This was the beginning and the end of the inquiry at the trial; this is the beginning and the end of any judgment now on the guilt or innocence of these men.

The character of the testimony of the five witnesses who definitely identified Sacco as in the car or on the spot at the time of the murder demands critical attention.

Splaine and Devlin were working together on the second floor of the Slater and Morrill factory, with windows giving on the railroad crossing. Both heard the shot, ran to the window, and saw an automobile crossing the tracks. Splaine's identification of Sacco, as one of the occupants of this escaping car, was one of the chief reliances of the prosecution. Splaine, viewing the scene from a distance of from 60 to 80 feet, saw a man previously unknown to her, in a car traveling at the rate of from 15 to 18 miles per hour; she saw him only for a distance of about 30 feet, that is to say, for from one and a half to three seconds; and yet she testified:

The man that appeared between the back of the front seat and the back seat was a man slightly taller than the witness. He weighed possibly from 140 to 145 pounds. He was muscular, an active looking man. His left hand was a good sized hand, a hand that denoted strength.

Q. So that the hand you said you saw where? A. The left hand, that was placed on the back of the front seat, on the back of the

¹ Felix Frankfurter, *The Case of Sacco and Vanzetti* (Little, Brown and Company, Boston, 1927), pp. 9-14, abridged.

front seat. He had a gray, what I thought was a shirt,—had a grayish, like navy color, and the face was what we would call clear-cut, clean-cut face. Through here (indicating) was a little narrow, just a little narrow. The forehead was high. The hair was brushed back and it was between, I should think, two inches and two and one-half inches in length and had dark eyebrows, but the complexion was a white, peculiar white that looked greenish. (R. 114-5.)

Q. Is that the same man you saw at Brockton? A. It is.

Q. Are you sure? A. Positive. (R. 115.)

The startling acuity of Splaine's vision was in fact the product of a year's reflection. Immediately after Sacco's arrest the police, in violation of approved police methods for the identification of suspects, brought Sacco alone into Splaine's presence. (R. 121, 130.) Then followed in about three weeks the preliminary hearing at which Sacco and Vanzetti were bound over for the grand jury. At this hearing Splaine was unable to identify Sacco:

Q. You don't feel certain enough in your position to say he is the man? A. I don't think my opportunity afforded me the right to say he is the man. (R. 132.)

When confronted with this contradiction between her uncertainty forty days after her observation and her certainty more than a year after her observation, she first took refuge in a claim of inaccuracy in the transcript of the stenographer's minutes. This charge she later withdrew and finally maintained:—

From the observation I had of him in the Quincy Court and the comparison of the man I saw in the machine, on reflection I was sure he was the same man. (R. 133.)

Then followed this cross-examination:—

Q. You now say that on reflection you feel sure he is the man? A. I feel most certain he is.

Q. You were answering in the lower court from your observation, weren't you? A. Yes, sir.

Q. From what you saw? A. Yes.

Q. Your answer now is that you feel most certain that he is? A. Yes.

Q. That is not the position that you are sure beyond any doubt, is it? You are most certain now, aren't you? A. I am positive he is the man; certain he is the man. I admit the possibility of an error, but I am certain I am not making a mistake.

Q. Your answer in the lower court was you didn't have oppor-

tunity to observe him. What did you mean when you said you didn't have sufficient opportunity to observe him? A. Well, he was passing on the street.

Q. He was passing on the street and you didn't have sufficient opportunity to observe him to enable you to identify him? A. That is what I meant.

Q. That is the only opportunity you had? A. Yes, sir.

Q. You have had no other opportunity but that one fleeting glance? A. The remembrance of that. (R. 133.)

Let Dr. Morton Prince, professor of abnormal and dynamic psychology at Harvard University, comment on this testimony:—

I do not hesitate to say that the star witness for the government testified, honestly enough, no doubt, to what was psychologically impossible. Miss Splaine testified, though she had only seen Sacco at the time of the shooting from a distance of about 60 feet for from $1\frac{1}{2}$ to three seconds in a motor car going at an increasing rate of speed at about 15 to 18 miles an hour; that she saw and at the end of a year she remembered and described 16 different details of his person, even to the size of his hand, the length of his hair as being between two and $2\frac{1}{2}$ inches long, and the shade of his eyebrows! Such perception and memory under such conditions can be easily proved to be psychologically impossible. Every psychologist knows that—so does Houdini. And what shall we think of the animus and honesty of the state that introduces such testimony to convict, knowing that the jury is too ignorant to disbelieve?

How came Miss Splaine to become acquainted with these personal characteristics of Sacco?

The answer is simple. Sacco had been shown to her on several occasions. She had had an opportunity to study him carefully. More than this, he sat before her in the court. At the preliminary hearing in the police court she was not asked to pick Sacco from among a group of other men. Sacco was shown alone to her. Every one knows that under such circumstances the image of a person later develops, or may develop, in an observer's mind and becomes a false memory. Such a memory is produced by suggestion. Every lawyer knows the unconscious falsification of memory due to later acquired knowledge, though ignorant of the psychology of the phenomenon. And yet Miss Splaine's testimony was offered by the state to the jury.

Why was not Miss Splaine asked to pick out Sacco from among a group of men? If this had been done, this unconscious falsification of memory would have been avoided.²

² Letter, "A Psychologist's Study," Boston *Herald*, Oct. 30, 1926.

In this case of which we have been reading, the lives of two humble Italians were in jeopardy. Rightly or wrongly, millions of intelligent citizens believed that they had been proved beyond a doubt to be guilty of a brutal murder. Other equally intelligent and well-informed citizens sincerely believed that because they were aliens, draft-dodgers, pacifists, and radicals, Sacco and Vanzetti had in no wise been given a fair trial, but had been railroaded to the death house. The well-earned honor of Massachusetts courts was at stake. No wonder, then, that in the summer of 1927 the eyes of conservatives and radicals all over the world were alike fixed upon Boston.

The fate of the accused depended largely upon the testimony of a handful of witnesses. Of these no one was more important than Miss Splaine. Plainly, then, oral testimony was for the time being a matter of supreme moment to the world, and it was therefore imperative that the testimony of Miss Splaine should be appraised accurately.

Supported by the statements of Professor Prince, Professor Frankfurter has made this appraisal for us. His incisive analysis serves four purposes. First, it makes apparent the limitations which the human mind imposes upon observation and testimony. Second, it shows the absolute dependence of testimony upon observation. Third, it reveals how great wrong can be done by sincere witnesses. Finally, it shows how popular ignorance of the limitations of observation and testimony can be used to spread error.

The subject of oral testimony is of great importance to every one of us in our daily lives. Hourly we have to appraise the statements of many persons—our children, our employers, our employes, strangers, associates, friends. Upon our ability to judge correctly the accuracy of their testimony depends successful living, even life itself.

Testimony may be untrue by reason of unintentional

errors of report, unintentional errors of opinion, and downright lies. We shall now examine all three of these forms of false testimony.

We note first unintentional errors in reporting. These are common because, as was pointed out in Chapter V, persons who can not be trusted to observe carefully and discriminatingly and to describe what they see accurately and truthfully are very numerous. Such errors are of several kinds. First and most frequent are errors of omission. Witnesses fail to recall part of what they observe. Second are errors of addition. Witnesses make false insertions in their reports. Third, both are often combined in errors of substitution. Instead of accurate statements of details, witnesses give inaccurate ones. Fourth are errors of transposition. In their reporting witnesses transpose events and objects in time and space. These generalizations, which Whipple discussed in some detail,³ can be illustrated from the reports of a fist fight which was once staged in a college class. Immediately after the event the teacher explained to the class that the fight had been a hoax. Nevertheless two students were later found excitedly telling their friends of the event as a serious fracas. Again, student reports made in class immediately after the affair put in the mouths of the disputants words which they had not uttered at all. Still other reports simply garbled the remarks of the fighters. Finally, some accounts changed the order of events, being wrong regarding the identity of the person who struck the first blow.

In the second place, we have to cope with those errors of opinion which are expressed by well-intentioned individuals. The avoidance of being deceived by worthless testimony from such persons is the more difficult because most men do not realize their own incompetence. Persons who, for instance, would consider it the height of presump-

³ *Psychological Bulletin*, Vol. XV, pp. 234-236.

tion to advise an engineer how to plan a simple culvert, have no hesitation in speaking with an air of authority on far more complex questions, such as Portuguese immigration or the nature of a desirable currency, subjects on which their knowledge is very superficial and only too often derived from inaccurate and biased sources. Their eagerness to testify and their own faith in the truth of their assertions frequently inspire unjustified confidence. Men listen to them with respect and quote their utterances appreciatively, as though they had real value.

Finally, in using oral testimony we have to be on the watch against those numerous persons who lie deliberately when they think it is to their interest to do so, and lie so cleverly that only the most critical examination of their statements can distinguish the true from the false.

In view of the frequency and seriousness of false report, our attitude regarding the taking of testimony is curiously inconsistent. We strain at the gnat and swallow the camel. Lippmann admirably described the situation when he said:

The taking of testimony in a trial is hedged about with a thousand precautions derived from long experience with the fallibility of the witness and the prejudices of the jury. We call this, and rightly, a fundamental phase of human liberty. But in public affairs the stake is infinitely greater. It involves the lives of millions, and the fortune of everybody. The jury is the whole community, not even the qualified voters alone. The jury is everybody who creates public sentiment—chattering gossips, unscrupulous liars, congenital liars, feeble-minded people, prostitute minds, corrupting agents. To this jury any testimony is submitted, is submitted in any form, by any anonymous person, with no test of reliability, no test of credibility, and no penalty for perjury. If I lie in a lawsuit involving the fate of my neighbor's cow, I can go to jail. But if I lie to a million readers in a matter involving war and peace, I can lie my head off, and, if I choose the right series of lies, be entirely irresponsible. Nobody will punish me if I lie about Japan, for example. I can announce that every Japanese valet is a reservist, and every Japanese art store is a

mobilization center. I am immune. And if there should be hostilities with Japan, the more I lied the more popular I should be. If I asserted that the Japanese secretly drank the blood of children, that Japanese women are unchaste, that the Japanese were really not a branch of the human race after all, I guarantee that most of the newspapers would print it eagerly, and that I could get a hearing in churches all over the country.⁴

In order to protect us from the error of accepting worthless testimony from either incompetent or dishonest persons, the rest of this chapter is devoted, first, to an enumeration of the several classes into which these groups of unsatisfactory witnesses may be divided, and second, to a description of some of the means by which we can test the credibility of witnesses.

We begin with a consideration of those witnesses whose testimony is unsatisfactory, though their intent is of the best. They are chiefly persons who were not competent to observe. Since their weaknesses as observers have already been discussed, it is necessary at this point simply to illustrate the fact that their testimony is of little or no value.

We note first the testimony of persons who have been physically incompetent to observe. In case of a railroad accident involving the position of a switch-light at night, for example, the testimony of a witness who could not distinguish red from green would be of little worth.

Second comes the witness of persons who have not been in a position to observe. This includes the testimony which is popularly known as "hearsay" evidence. Professor Giddings told an amusing anecdote which illustrates admirably how little some persons appreciate the relation of position to the power of observing and of testifying. In the election of 1884 the vote of the state of Connecticut was

⁴ Walter Lippmann, *Liberty and the News* (Copyright, 1920, by The Macmillan Company, New York; George Allen and Unwin, Ltd., London. Reprinted by permission), pp. 39-40.

being tabulated in the editorial rooms of the *Hartford Courant*. There was at that time no other place on earth where one could learn how the vote of the state was going. The count was running heavily against the Republicans. In the midst of the excitement a man leaped on a table and exclaimed, "Don't believe these figures. They are all wrong! I have just received a telegram from New York which says that Blaine will carry Connecticut by at least three thousand!"

In far greater matters than predictions of election returns, unfortunately, the world is very willing to listen to such palpably unreliable reports. It accepts statements regarding conditions in one nation from witnesses in another nation who have not been in the country under consideration for years, and it solemnly quotes such assertions as adequate evidence on which to base a public policy. Illustration of this inclination was given by the general acceptance in war-time of statements of Russian émigrés regarding events which occurred in Russia long after the émigrés had arrived in Paris.

Third, as every parent knows, the testimony of children is very unreliable. The youngsters may not intend to lie, but their limited power of observation is likely to cause them to make false statements and create false impressions. Illustration is found in the case of the child who complained that her teacher had called her a "city rat," when in reality she had simply said, "Sit erect." Classic examples of children's testimony which caused notable harm are found in the reports of the youths which led to the Children's Crusade, and the false testimony on which was based the tragedy of the Salem witchcraft delusion.

Mental incompetency, our fourth point, is obviously a cause of unreliable testimony. The points which need to be noted here, therefore, deal with special cases. First, it

must be remarked that, although a person may be mentally incompetent to testify on some subject, he may still be competent to testify on another subject. An insane person, even, may be sane on every subject but that one around which his delusion is centered. An instance has occurred, therefore, in which the testimony of insane men was admitted in evidence in a case involving a charge of manslaughter.⁵ Second, and this is more important, it is often difficult to discover the fact of mental incompetency to testify. Wellman gave us an illustration which admirably illumines this point. He said:

Erskine once wasted a whole day in trying to expose to a jury the lack of mental balance of a witness, until a physician who was assisting him suggested that Erskine ask the witness whether he did not believe himself to be Jesus Christ. This question was put by Erskine very cautiously and with studied humility, accompanied by a request for forgiveness for the indecency of the question. The witness, who was at once taken unawares, amid breathless silence and with great solemnity, exclaimed, "I am the Christ"—which soon ended the case.⁶

It is also frequently difficult to determine the competency of testimony of those who are mentally incapacitated temporarily. In the case of the thoroughly intoxicated man there is no chance of error, in the case of the man who has been drinking a little or who is under the influence of some narcotic the layman may be very much in doubt regarding the probable worth of his testimony.

Our next point is the matter of competency so far as education and experience are concerned. One cannot be a good witness regarding many subjects unless he has had special training in the field under consideration. The adequacy of training and experience which a witness has had

⁵ Francis L. Wellman, *The Art of Cross Examination* (Copyright, 1903, by The Macmillan Company, New York), Chap. XIII.

⁶ *Ibid.*, pp. 109-110. Reprinted by permission.

is often an important question. Wellman described a suit for damage which was brought by a woman who had suffered a "Potts fracture of the ankle," which resulted in permanent lameness. The case depended in large part upon the competency of the attending physician to treat such an injury and to testify regarding it. The facts were developed that he did not claim to be an experienced surgeon, that he had never in his practice treated such a case before, and that Potts fractures were daily treated in hospitals by experienced men who restore fully the use of the ankle in a few months. The jury apparently saw the point that the physician's experience did not make him an expert witness in the case, and rendered its verdict accordingly.⁷

Sixth, seventh, and eighth, a well-meaning witness may testify falsely because as observer he was not alert, could not estimate accurately, or could not make fine discriminations. Münsterberg illustrated these facts with another of his revealing experiments. He wrote:

My next question did not refer to immediate perception, but to a memory image so vividly at every one's disposal that I assumed a right to substitute it directly for a perception. I asked my men to compare the apparent size of the full moon to that of some object held in the hand at arm's length. I explained the question carefully, and said that they were to describe an object just large enough, when seen at arm's length, to cover the whole full moon. My list of answers begins as follows: quarter of a dollar; fair size cantaloupe; at the horizon, large dinner plate, over-head, dessert plate; my watch; six inches in diameter; silver dollar; hundred times as large as my watch; man's head; fifty-cent piece; nine inches in diameter; grapefruit; carriage-wheel; butter-plate; orange; ten feet; two inches; one-cent piece; school-room clock; a pea; soup-plate; fountain-pen; lemon-pie; palm of the hand; three feet in diameter: enough to show, again, the overwhelming manifoldness of the impressions received. To the surprise of my

⁷ *Ibid.*, pp. 88-94.

readers, perhaps, it may be added at once that the only man who was right was the one who compared it to a pea.⁸

Our ninth cause of incompetent testimony is lack of mental poise. We begin our illustrations with a case of excitement at the time of observation. In 1914, for example, when the German troops first entered Belgium, they reported many cases of attack by ununiformed civilians, among whom were Roman Catholic priests. Careful investigation of large numbers of cases by German military officials proved, however, that most if not all of the stories were without foundation. How, then, are the reports to be explained? Very largely, no doubt, in terms of excitement at the time of observation. When the troops crossed the frontier they were, of course, in a state of abnormal tension, having been suddenly snatched from the pursuits of peace. They believed, moreover, that they would be permitted free passage through the country. When, then, they were fired upon by an unseen foe, they were overwhelmed with amazement. Who could be doing it? Plainly, they thought, not organized Belgian troops. The miscreants could be none other than guerrillas, of whom they had been warned in their manuals. There is abundant evidence, also, that German soldiers saw men in long dark gray garments which came to their knees. This was the uniform of the Belgian town guard, which, through excitement, they could easily confuse with the familiar black cassock of the priest.

Mental poise is also sometimes lacking, we know, because of prejudicing habits. We note first the influence of habit which is affected little, if at all, by emotion. Most persons who are sick, for example, consult a physician. He advises them and may give them medicine. Presently,

⁸ Hugo Münsterberg, *On the Witness Stand* (Doubleday, Page and Company, New York; Ernest Benn, Ltd., London, 1908), pp. 27-28.

in most cases, they are well. Then they attribute their recovery of health to the physician. They do this because their habitual and faulty belief, that what follows an event is usually the result of that event, prevents them from analyzing the situation. They do not realize, therefore, the truth of the statement of one frank physician, "Ninety per cent of my patients would soon get well without me. One per cent of them will die in spite of me. I may be able to hasten the recovery or even to save the lives of nine per cent of them." We are now in a position to understand why many persons can sincerely but falsely testify that their present good health is attributable to the work of a chiropractor, a Christian Scientist, Coca Cola, or Lydia Pinkham's Vegetable Compound; or that American prosperity is due to the two-party system, the protective tariff, or Nordic superiority!

Finally, we note how mental poise is destroyed by emotional attitudes, such as sympathy and antipathy, anticipation, hope, and fear. These emotions cause men to observe and testify falsely, because in advance they attribute characteristics to the objects of their observation. Every one knows, for example, that in a ball game the umpire is far better qualified to call "balls" and "strikes" than is the partisan "fan" in the bleachers. The word "fan," by the way, is an abbreviation of "fanatic," the name of a class in which one does not expect to find good witnesses. Yet few men have not listened sympathetically to a "fan's" sincere account of how the "robber" umpire wronged the home team. The "fan" no doubt hoped that certain balls which were about to be pitched would be "balls" or "strikes," made his observation conform to his hopes, and testified accordingly.

Further illustrations of how emotional attitudes affect testimony are important. A father, for example, had a

Chinese student arrested for speaking to his little girl as the youth opened the door of an apartment house for the child. The father's antipathy for Orientals led him to observe falsely that the remark of the Chinese was offensive, because he habitually thought of all Orientals as evil men.⁹ Such habitual attitudes so frequently cause false testimony that some persons have to make allowance for them constantly. A colored social worker, for instance, once remarked to a white friend, "When I went home from your house last night I saw a white woman approaching who looked at me suspiciously. I was afraid that if I passed her she might scream and later say that I had been going to attack her. If she screamed I would be about as badly off as if I had attacked her. So I got away by walking in the middle of the road and going down another street!"

We must now note another general class of witness. It consists of persons who may have been good observers, but who have become unreliable testifiers. Worth of testimony may be affected, first, by bias which arises between the time of observing and the time of testifying; second and third, by excitement or confusion at the time of bearing witness; fourth, by the advancing age of the witness; fifth, by the influence of alcohol or narcotics; sixth, by insanity. These classes require neither discussion nor illustration to make them clear.

Five other classes of influence which affect testimony may well be given a word of explanation or illustration. Seventh is the inadequacy of memory. Even the best of us find that our recollection of events blurs soon after their occurrence, and we should be quite at a loss to tell, if asked, the events of a day in the week before last. When we con-

⁹ Bruno Lasker, ed., *And Who Is My Neighbor?* (The Inquiry, New York, 1924), pp. 5-6.

sider, moreover, how differently perfectly normal persons observe the same event, it is no wonder that accounts which are given later are often very inharmonious.

Eighth comes suggestion. Men can often be led by the manner of the person quizzing them to testify to things which sober judgment would tell them is false. This is notably true in the case of children. There can be little doubt, for example, that the sympathetic examination of the children of Salem, when they first stated that they had been plagued by witches, suggested to them that there was something in their story, and led them to elaborate other falsehoods without intent to lie. Suggestion is also often effective with adults. It explains to a large degree the exaggerated stories told by those German soldiers, wounded in the early days of the War, who were sympathetically questioned upon their return home.

Even the most intelligent persons are not immune to this power of suggestion. Wellman told, for example, how he exhibited to a prominent physician the bones of a woman's right leg and then, by suggestion in cross examination, led him to testify falsely that the bones shown him had in life been part of a man's leg, that they belonged to the left leg, and that the top of the tibia was the bottom!¹⁰

Whipple had an interesting discussion of this matter of suggestion which is well worth quoting at this point. He declared:

The amount of error in the deposition depends much on the skill with which the questions are framed: it is considerably increased if the interrogatory contains suggestive questions. Every one knows that a skillful questioner can go far toward bringing out replies of the sort he desires. Lawyers who wish to trap a witness into making a given statement often resort to "leading" questions unless the opposing counsel or the judge raise objections. . . .

¹⁰ Wellman, *op. cit.*, pp. 92-93.

The questioner ought, therefore, to be familiar with a few of the most common types, or forms, of questions and to know roughly which of them is the least, which the most misleading to the reporter.

Let us suppose that the reporter is being quizzed about a picture in which there is a brown dog but no cat.

(a) The question: "What color is the dog?" carries the least amount of suggestion. The reporter is free to mention any color. Questions thus introduced by a pronoun or by an interrogative adverb may be called *determinative* questions.

(b) The question: "Is there a dog in the picture?" is a *completely disjunctive* question. It forces the reporter to choose between two alternatives.

(c) The question: "Is the dog white or black?" is an *incompletely disjunctive* question. It offers the reporter a choice between two alternatives, but does not preclude a third possibility. Under the circumstances we are assuming, this question would be distinctly a suggestive and misleading question. The reporter can, of course, reply: "Neither, it is brown," but this reply necessitates a certain degree of resistance to the suggestion that the dog is either white or black.

(d) The question: "Was there not a cat in the picture?" is termed an *expectative* question. It obviously arouses a fairly strong suggestion that the answer is to be "Yes."

(e) The question: "What color is the cat?" would be an *implicative* question under the conditions we are assuming, because it implies the presence of a feature that was not really present in the experience. Its suggestiveness is usually much stronger than that of the expectative or disjunctive type of question; that is, for the average observer, if he is not certain whether the cat was there or not, it is much harder to say, "There was no cat" in answer to this question than in answer to the question "Was there a cat in the picture?"

... The actual degree of influence exerted by suggestive questions may be indicated by some quantitative results obtained by Binet with his "Card of Objects" test. With indifferent (non-suggestive) questions he obtained 26 per cent. of error, with moderately suggestive questions (mostly of the expectative type), 38 per cent. of error and with strongly suggestive questions (mostly of the implicative type), 61 per cent. of error. These figures pertain to results with children, who are well known to be more

open to suggestion than are adults, but the relative influence of the different types of questions may be deemed about the same for children and for adults.¹¹

Ninth is hypnosis, which is simply an exaggerated degree of suggestion. Münsterberg is authority for the statement that false confessions have often been made under this influence. He recounted in detail a case of a man who denied, then "confessed," and after some weeks again denied committing a certain murder. From careful study of conditioning circumstances, Münsterberg was satisfied that the "confession" was false, and was made under the influence of hypnosis.

Last of all, a thoroughly competent observer may not be a good witness through failure to understand the questions put to him. Intelligent persons occasionally fall into this class, when they are asked questions in a language in which they are not skilled. Sometimes, too, difficulty arises because questions in one's mother tongue are not understood. It is probable, for example, that at Waterloo the guide misunderstood a question from Napoleon, and led the Emperor to believe that there was no obstacle to an advance where, in reality, there was a sunken road into which several thousand French cavalymen presently charged and perished.

We now turn to note the causes of intentionally false witness. We must be scientific enough to recognize, however, that much that is apparently dishonest testimony is sincere and is merely the result of some of the causes of error which we have just been considering. It is also well to observe that persons who testify about matters with which the social scientist is concerned are especially tempted to lie, because it may be to their advantage to make things appear in a false light. They are the more

¹¹ Whipple, *Psychological Bulletin*, Vol. XV, pp. 244-245.

inclined to yield to temptation because detection of their deceit is often unlikely. Men can seldom prove, for instance, that the florid assertions of the political propagandist are untrue, though the unbiased auditor may be satisfied that they are without foundation. Nine special reasons why deliberately dishonest statements are made must now be described.

In the first place must be mentioned the influence of conventionality. There are some races and nations whose members frequently lie, simply because they feel that the truth will be unpleasant to their questioners. This is notably true in the case of some South Europeans and Levantines, who, for instance, assure the pedestrian that his journey's end is but four kilometers distant, though actually it may be five times as far away. We Americans do our full share of this kind of lying, too, as when we say good night to our hostess at the close of a stupid evening, or answer a friend's leading question, "How do you like my new hat?"

Second, economic interests are a common source of false testimony. Employers and workingmen, for instance, frequently tell untruths about each other, especially in time of industrial warfare, in order to sway public opinion to their side. Similar falsehood is often to be discovered in the conflicting statements of shippers and common carriers, bankers and borrowers, and scores of other opposed groups whose names will suggest themselves to any one who attempts to list them.

Third, racial interests often cause false witness. Because, for instance, white Chilians feel that their standards will be threatened if Indians vote, they sometimes say false things of the Indian's intelligence and honesty, thereby helping maintain a sentiment in favor of keeping him disfranchised.

In the fourth place, political interests make politicians notoriously irresponsible witnesses. Even in normal times they defame opponents and praise extravagantly their own achievements, platforms, and candidates. It has been whispered, for example, that many an honorable candidate for high office was personally immoral or cruel to his wife, while the presidential contest of 1928 was notably a whispering campaign regarding the integrity, associates, and personal habits of the two chief candidates. In abnormal periods, as in time of revolution, there seems to be no limit to the falsehoods which extreme reactionaries and extreme radicals will tell about their opponents. The very conflicting stories told about both the nature of the old régime and of the Bolshevik rule in Russia illustrate this fact.

Fifth, jingoism and an extreme sense of nationality make men dishonest. They often cause them to make palpably false charges against hostile states, either in the attempt to build up the morale of their own supporters and tear down that of their opponents, or in the effort to develop a favorable attitude in the minds of neutrals. Such testimony is much of what the English and the Irish used for centuries to say of each other.

Sixth, military necessity causes untruthfulness in time of war. Soldiers are under obligation to conceal untoward events from the enemy and to keep up the morale of the people at home. Hence, for instance, reports of activities at the front which were issued by all the nations in the World War were frequently inaccurate. This source of error may permanently vitiate military history.

Seventh, religious fanaticism often causes persons who are keenly interested in the success of a particular religious organization to defame rival groups and their leaders. In the United States, Agnostics, Christian Scientists, Jews, Mormons, Roman Catholics, and Unitarians are especially

subject to these unfair attacks. Examples are found in the whispered stories of arsenals in the basements of Roman Catholic churches, and of Jewish plottings to overthrow all governments.

Eighth, purely personal reasons may cause witnesses to lie voluntarily, because they think that a falsehood will benefit them. Sometimes such an act is trivial, as when a fisherman exaggerates for the sake of telling a good story; sometimes it is serious, as when a person perjures himself on the witness stand in order to save himself at the expense of another, or lies about the cruelty of the enemy in war-time, in order to make himself more of a hero. Then, too, persons may lie on the theory that a stranger must have some hidden and sinister motive for asking questions, and that it is best to deceive him. This attitude is particularly common among the ignorant. It has been found, for example, that such persons will often tell a census-taker that they live in another city, because they fear that if enumerated they may be subjected to taxation, deportation, or some unknown danger or hardship.

Ninth, and finally, honest men sometimes lie because of duress. A laborer, for instance, being questioned about working conditions by a government investigator, may either refrain from describing bad conditions, or, fearing to tell the truth lest his testimony displease his employer and cost him his position, may say that conditions are better than is actually the case. In this connection mention must be made of the so-called "third degree." We know that in the Middle Ages forced confessions were worthless, because most men will confess to anything to save themselves from excruciating physical torture. Yet even to-day we hear, with distressing frequency, of cruelties of the police, committed for the express purpose of obtaining confessions. Not long ago a case involving this

very matter reached the Supreme Court of the United States. The Court unanimously declared that the so-called "confession" of an alleged murderer was worthless, because a man in such physical condition as was the accused would make a false "confession" to anything in order to save himself from the torment of the police, even though he knew it would later cost him his life.¹²

We must now consider means of deciding whether or not a witness falls in any of the foregoing classes of unsatisfactory testifier. In making this decision several questions have to be answered regarding the relation of the witness to the subject under consideration. They may be listed as follows:

1. Was the witness physically competent to observe accurately?
2. Was he in a position to observe?
3. Was he of mature and sound mind?
4. Was he by education and experience competent to observe?
5. Was he alert?
6. Did he have acceptable ability to make estimates?
7. Was he able to make adequately fine discriminations?
8. Was he possessed of adequate mental poise?
9. Is he now mentally and emotionally competent to testify?
10. Does he have any reason for lying in the present case?
11. Is he habitually truthful?

There are three sources of information which may furnish answers to these questions. They are, first, personal acquaintance; second, the testimony of other persons, such as the friends and acquaintances of the witness, specialists in the field under consideration and other competent and responsible persons; third, the professional connections of the witness. The information which these sources give is of unequal value, both for answering the questions separately and as a whole. We shall have no difficulty,

¹² *New Republic*, Vol. XL, pp. 272-274.

however, in determining when and to what extent each source furnishes helpful information. Whenever possible all three tests should be used together. We must now consider specifically what light can be obtained regarding the reliability of the witness from each of these sources.

The first source of information is that of personal acquaintance. One may have first-hand knowledge of a witness from contact with him as a friend, neighbor, school, or business associate. Such association furnishes one of the best tests of reliability. By knowing a person for a long time and by seeing him under many conditions one learns of his intelligence, honesty, training, and freedom from bias, for few men permanently conceal most of their real selves from their close associates.

A second source of information is the testimony of other persons. Friends and acquaintances of a witness may testify regarding his habitual honesty, specialists in the field under consideration may express opinions regarding his training for observation, alienists may pass upon his general competence to observe and to testify, while many responsible persons may tell whether or not he was in a position to observe. Of course those who testify regarding the responsibility of another must be able to speak from knowledge and their own responsibility must be beyond question. No witness should be accepted as responsible or rejected as irresponsible on the unsupported testimony of another person whose own competence has not been established. Even when an individual is subject to general condemnation by supposedly responsible persons, it must not be forgotten that the world is often prone to reject its scientists as well as its charlatans. While, therefore, general condemnation may create a presumption against the responsibility, this in itself does not prove that one's testimony is worthless.

A third test of the responsibility of a witness is found in his professional connections. In the case of persons of prominence, these may be learned by consulting reference works such as *Who's Who* and *Who's Who in America*. There is a presumption in favor of the soundness of judgment of incumbents of the higher teaching positions in first-class colleges and universities, scientific and non-political positions in government bureaus, and executive and research positions in large libraries, museums, scientific societies, and the like. Such institutions could not endure if they stood sponsor for persons notably lacking in scientific traits. Of course, it does not follow that persons in such positions are infallible; the wide diversity of their opinions shows this. Of late, moreover, some legislators, trustees, and executives have designated certain biological, economic, political, and social theories which the teachers under their authority are directed to maintain, to oppose or to refrain from discussing. Teachers acting under such instructions lose their freedom of speech and become hired servants. Even though their utterances may be true and scientific, they do not carry the influence of the declarations of other scientific men. Finally, one must remember that in many educational institutions there is an invisible but none the less powerful and effective pressure of executive and public disapproval which, while it does not actually cause teachers to tell untruths, does very frequently deter them from telling the whole truth, as they see it, on important questions of current interest. The circumstances under which more than one noted scientist has been ousted from his chair bear eloquent testimony to what is likely to happen to one who defies this pressure. In spite of these exceptions, however, university and other educational and scientific connections are important indications of the responsibility of witnesses.

It need hardly be added that persons honest and competent to testify are not to be found exclusively in the institutions mentioned in the foregoing paragraph. They are to be found in all walks of life. When one is seeking competent testimony regarding the exceedingly complex social problems about which men find it particularly difficult to think scientifically, he will do well to turn to those clergymen, editors, physicians, social workers, teachers, statisticians, and statesmen who have had considerable training or have read widely in the social sciences.

As we appraise the reliability of our witnesses we must remember that honesty, like the ability to observe and to describe, is a relative matter. Very few persons never lie, and fewer still refuse to keep silent when silence is to their advantage. Occasionally, however, one meets a man whose loyalty to the truth is measureless. Such a man was Darwin. Not only would he not lie with tongue or pen, he also made every effort to prevent his silence on any subject from creating a false impression. In stating his case for the theory of natural selection, for instance, he took the utmost pains to present every known scientific objection to the hypothesis, even though he had at times to admit that he could not then answer the objection. The testimony of such a rare scientific man has the highest value.

Significant as is the ability of the witness to stand up under a searching examination of his record, it is not in itself sufficient to prove that his testimony in the case at hand is reliable. Even though the reputation of the witness be excellent, it does not follow that he may not be lying for the first time. If one has something to gain by lying, or if he simply thinks that he has something to gain, he may depart from the truth, and the apparent absence of a motive for falsehood is no proof that such a motive does not exist. On the other hand, of course, the presence of a

motive for lying is in itself no proof that testimony is dishonest.

In case a witness is caught in a grossly erroneous statement, which obviously could be made by a normal person only if he had the intent to deceive, his testimony regarding the case at hand becomes practically worthless. This fact is well illustrated by an anecdote which is told of Lincoln. In a case in which Lincoln was defending an alleged murderer, the one witness for the state testified that he had seen the shooting "by moonlight." When Lincoln produced an almanac and showed that there was no moon at the time the shooting occurred, he had won his case. He had caught the man upon whom the whole prosecution depended in a deliberate and important lie, and had thereby shown him to be an unreliable witness. This discovery, it is interesting to note, led presently to the confession of this witness that he himself was the murderer.¹³

In many cases it is impossible to prove or disprove the reliability of a witness. Light may be thrown upon the probable value of his testimony, however, by his bearing while testifying, by the consistency of his testimony, and by the reasonableness of the testimony. It is of course true that while one may bear himself as most men do when they are telling the truth, he may be merely skilled in the art of dissimulation. On the other hand, a thoroughly honest witness may be so embarrassed as to act as though he expected to be caught in a lie. Consistency of testimony is an important criterion of reliability. A person who contradicts himself in essentials is a very poor witness. Finally, reasonableness in testimony is highly significant. The testimony which runs counter to general experience is rightly subject to question. We must beware, however, lest we complacently close our minds to apparently absurd

¹³ Wellman, *op. cit.*, pp. 63-64.

statements, even as did our fathers in the cases of such men as Galileo, Harvey, and Darwin. That which is to-day the height of absurdity may become the commonplace of to-morrow.

The unidentified witness presents a special problem. He may pass all the tests listed in the last paragraph in an apparently satisfactory manner. Even then, however, although his statements may furnish ground for a working hypothesis, their value in proof is usually practically negligible, because his honesty and competence are unknown.

The best identification and test of reliability of a witness are not necessarily furnished, be it noted, by a man's name. For many purposes much more significant identification is furnished, for example, by one's uniform as railroad conductor or by one's Sigma Xi key, than by the card which introduces him as Morgan Thomas, Attorney at Law, of Ottumwa, Iowa.

In cases when several witnesses are to be examined, additional and more refined tests are available. Professor Whipple wrote of three principles, by observing which it is often possible to sift the truth from what seems to be simply a jumble of conflicting statements. He averred:

When the truth is to be ascertained by the examination of several witnesses of the same event, these witnesses should be examined separately and if possible before they have been able to exchange ideas about it.

When a number of persons report upon the same matter, those details upon which agreement appears may in general be considered as correct. . . .

But if a number of persons agree perfectly in their statements about numerous small details under circumstances such that the observation must have been difficult and memory of them must have been likely to unintentional error, then suspicion is justified and collusion is probable.¹⁴

¹⁴ *Psychological Bulletin*, Vol. XV, pp. 238-239. The order of the points is changed in quoting.

At this point it is well to note that fullness and accuracy of testimony are affected by the form in which report is made. Whipple again gave valuable information on the matter. He wrote:

The range and the accuracy of an observer's report depend partly on the form in which it is made, especially whether it be a free, spontaneous account (narrative) or in answer (deposition) to a series of questions (interrogatory). By a "narrative," in this special sense, we mean a free account, either oral or written, delivered by the observer without comment or suggestion from the person to whom he is reporting. By an "interrogatory" we mean a series of questions designed to probe the observer's memory and to bring out a series of replies concerning the matter in hand. The answers to these questions, we term a "deposition." Of course, the interrogatory may be used alone or it may be used to supplement and to make clearer the statements of the narrative.

Each form of report has its advantages and its disadvantages. Thus, it will be evident that the narrative has the advantage of spontaneity; the observer follows his own trend of ideas and is not influenced in his formulation by any interjections, interruptions or quizzings by those to whom he is reporting. On the other hand, experience shows that the narrative is always of less range than the deposition; that is, the number of items or features that will be voluntarily mentioned, the amount of detail that will be spontaneously reported, is always less than the observer really observes and that he could report accurately in response to properly directed questions. But the corresponding advantage of the deposition, that is, its superior range, is purchased at the expense of a possible disadvantage, because the questioning . . . always has a tendency to elicit replies that are less accurate than the statements made in the narrative. Ordinarily, therefore, the observer ought to be permitted to make his own report first and to be interrogated afterward if this narrative is inadequate in scope or obscure in details.

Items recalled by interrogation, though unmentioned in the narrative, may often be reported as accurately as other items that were mentioned in the narrative. It might seem at first thought that if an observer had noted a certain thing so clearly that, on interrogation, he can give a circumstantial description of it, he would naturally have mentioned it in his original recital.

The fact is otherwise. It is true that questioning is liable to suggest to the observer matters that he had not observed clearly and that he is liable to make an inaccurate reply about such matters or that he may try so hard to answer every question that is put to him that he may unintentionally falsify. But, on the other hand, there will be a certain percentage of matters that he really did observe clearly and to which he can reply accurately that will be brought out only by the questioning. These matters may have simply slipped his mind when he gave his free version of what he observed and it needs only the barest mention of them to bring them back fully to his memory. Or he may have thought of them but have omitted to speak of them because he felt that they were unimportant.¹⁵

... If by an error is meant any distinct discrepancy between items reported and the actual facts, it may be laid down as a rule that, even in the case of competent adults, observing and reporting under favorable conditions, an errorless report is the exception. On the contrary, if the report attempts to get down to details, the average reporter will make a score of about seventy-five per cent in accuracy, not counting omissions as errors.¹⁶

In closing this discussion of testimony we must note that there are circumstances under which it is possible to get competent testimony from a witness who would in most cases be unsatisfactory. Thus, for example, a person of mediocre capacity and attainment, dishonest and biased religiously, may still be a competent witness regarding the enforcement of the prohibition law in his community.

Finally, there are cases in which one may get accurate testimony from a witness who would, if possible, be dishonest in the case at hand. Such a person may, in the first place, make admissions when he is off his guard. A reform school official, for instance, may privately make the virtual admission that his school does not reform by deploring the fact that many of his boys are "repeaters," though on the witness stand he may contend vigorously that the school

¹⁵ *Psychological Bulletin*, Vol. XV, pp. 242-243.

¹⁶ *Ibid.*, p. 245.

is doing its work effectively. A reluctant witness, moreover, will make admissions which are against his interest, if forced by circumstances to do so. The acknowledgment of a corporation manager that he had hired detectives to pose as laborers and join the union in order to spy on the labor movement is an example. In such cases of admission, however, one must bear in mind three possible sources of error. First, crafty individuals sometimes make minor admissions in order to win a reputation for frankness and integrity that will conceal their dishonesty in important matters. Second, they may also, as a matter of strategy, make supposed admissions which are false, as when premiers lie about the strength of armies. Third, some persons are inclined to depreciate themselves and their cause and thus make supposed admissions which are untrue.

The worth of written and printed matter as a source of information constitutes the subject of the next chapter.

CHAPTER XII

WRITTEN SOURCES

A TEST OF THE NEWS ¹

... The study which follows is a piece of evidence. It deals with the reporting of one great event in the recent history of the world. That event is the Russian Revolution from March, 1917, to March, 1920. The analysis covers thirty-six months and over one thousand issues of a daily newspaper. The authors have examined all news items about Russia in that period in the newspaper selected; between three and four thousand items were noted. Little attention was paid to editorials.

The New York Times was selected as the medium through which to study the news, first because the Times, as great as any newspaper in America, and far greater than the majority, has the means for securing news, . . . and . . . because the Times is one of the really great newspapers of the world.

The Russian Revolution was selected as the topic, because of its intrinsic importance, and because it has aroused the kind of passion which tests most seriously the objectivity of reporting.

The first question, naturally, is what constitutes the test of accuracy? A definitive account of the Russian Revolution does not exist. In all probability it will never exist in this generation. . . .

The "whole truth" about Russia is not to be had, and consequently no attempt is made by the authors to contrast the news accounts with any other account which pretends to be the "real truth" or the "true truth." A totally different standard of measurement is used here. The reliability of the news is tested in this study by a few definite and decisive happenings about which there is no dispute. Thus there is no dispute that the offensive of the Russian army under Kerensky in July 1917 was a disastrous failure; no dispute that the Provisional Government was over-

¹ Walter Lippmann and Charles Merz, "A Test of the News," *New Republic*, Supplement, Aug. 4, 1920, pp. 1-3, abridged.

thrown by the Soviet power in November, 1917; no dispute that the Soviets made a separate peace with Germany at Brest-Litovsk in March 1918; no dispute that the campaigns of Kolchak, Denikin, and Yudenitch were a failure; no dispute that the Soviet Government was still in existence in March 1920. Against such salient facts the daily reports about Russia in this period are measured. The only question asked is whether the reader of the news was given a picture of various phases of the revolution which survived the test of events, or whether he was misled into believing that the outcome of events would be radically different from the actual outcome.

The question of atrocities and of the merits or demerits of the Soviets is not raised. . . .

But what might more reasonably have been expected and what was more immediately important for Americans, was to know in the summer of 1917 whether the Russian army would fight, and whether the Provisional Government would survive. It was important to know in the winter of 1917-18 whether the Soviet Government would make a separate peace. It was important to know in the spring and early summer of 1918 whether the Russian people would support Allied intervention. It was important to know whether the Soviet Government was bound to collapse soon under Allied pressure. It was important to know whether the White Generals—Kolchak, Denikin, Yudenitch were, or were not, winning their campaigns. It was important to know whether Poland was defending herself or invading Russia. It was important to know the disposition of the Soviet Government toward peace at the time of the peace conference. It was important to know whether there was a Red Peril before Allied troops entered Russia, or whether that peril dates from the German surrender. It was important to know whether the Red regime was tottering to its fall or marching to the military conquest of the world. On each one of these questions depended some aspect of policy involving lives, trade, finance, and national honor. It is important now to know what was the net effect of the news on these points.

For the reader's convenience certain tentative conclusions from the evidence are stated here:

1. From the overthrow of the Czar to the failure of the Galician offensive in July 1917.

The difficulties in Russia, and especially in the Russian army, are not concealed from the attentive reader, but the

dominant tendency of the captions and the emphasis is so optimistic as to be misleading.

2. From the military disaster in July 1917 to the Bolshevik revolution of November.

The difficulties of the regime play a bigger part in the news, but a misleading optimism still continues. In this period, the tendency to seek a solution through a dictator-savior appears in the mistaken hope placed upon the Kornilov adventure, a hope quickly falsified by his collapse. It may fairly be said that the growth of the Bolshevik power from July to November must have been seriously underestimated in view of the success of the November coup.

3. From the Bolshevik revolution to the ratification of the treaty of Brest-Litovsk.

This period is on the whole the best in the three years. Different points of view are given, and the emphasis is generally neutral. After the recovery from the shock of the second revolution, the reports are inspired by an eager curiosity about the diplomatic battle between the Bolsheviks and the enemy. At the height of this diplomatic battle the news is handled in a rather uncritically pro-Bolshevik fashion, as a result of the optimistic assumption that the Soviets would refuse to make peace with Germany.

4. From the ratification at Brest-Litovsk, which coincided approximately with the Great German offensive in March 1918 to the decision for Allied intervention in August 1918.

Under the stress of disappointment and danger the tone and quality of the news change radically. Organized propaganda for intervention penetrates the news. This propaganda has two phases. There is a short and intense period in late March and early April, which stops rather suddenly with the announcement that the President has decided against intervention. There is a prolonged and intense period beginning about May which culminates in the American approval of intervention.

5. The months immediately following the signing of the armistice.

The Red Peril, which had hitherto played only an insignificant role, now takes precedence in the news from Russia and serves as a new motive for Allied intervention.

6. The Spring, Summer and Autumn of 1919.

Kolchak, Denikin and Yudenitch are heralded as dictators-saviors of Russia; for their campaigns, extravagant claims are made when they are moving forward; in retreat there is a steady assurance that a better turn is coming. Meantime the world is warned against a Russian invasion of Poland—though Polish troops are as a matter of fact deep in Russian soil.

7. The Winter of 1919-20 and the Spring of 1920.

Once more, with the failure of the White Armies, the Red Peril reappears. . . .

. . . From the point of view of professional journalism the reporting of the Russian Revolution is nothing short of a disaster. On the essential questions the net effect was almost always misleading, and misleading news is worse than none at all. . . .

Whatever the excuses, the apologies, and the extenuation, the fact remains that a great people in a supreme crisis could not secure the minimum of necessary information on a supremely important event.

It is now essential for us to consider why, as in this outstanding and important case, written sources often fail to give the whole truth and nothing but the truth. As a means to that end this chapter is devoted to a consideration of error and falsehood in sources, and of the means by which they can be detected.

All records are divided into two classes, primary and secondary sources. The "primary source" of any information is the oldest existing record which furnishes that information, either explicitly or by implication, or an authentic copy of that record. Primary sources are again divided into original documents and copies of original documents. The original document of the Declaration of Independence, for example, is the paper to which the members of the Continental Congress signed their names. Historians make an important distinction between an original document and a copy of that document which is used as a primary source, but for our purposes the distinction is immaterial, provided the original document is in existence and

is accessible. It happens frequently, however, that a primary source is only a copy of an original document which is no longer in existence. Such, for instance, is the oldest existing manuscript of the Gospel of Mark. In a case of this sort the distinction between the original document and the copy becomes of great importance. A "secondary source" is a quotation, paraphrase, comment, or discussion which is based on earlier sources that are still in existence. Histories of the French Revolution, for example, are secondary sources based on the primary sources of contemporary newspapers, official documents, personal letters, and the like.

It becomes necessary at this point to consider carefully the limitations which inhere in secondary sources. The fact can hardly be overemphasized that secondary sources have to be used with great care, especially when one is seeking information regarding events distant in either time or place. It is well known that secondary sources are likely to be written to harmonize with generally accepted beliefs and prejudices. Most popular histories, for instance, give somewhat conventional accounts of persons and events. They make heroes more heroic, villains more wicked, battles bloodier, and peaces more glorious than the best primary sources warrant. In short, they tend to present historical events, not as they were, but as the author likes to think of them, or as he believes his public likes or ought to think of them. Such histories may not lie, they may simply emphasize the pleasing facts and ignore or gloss over the displeasing ones. Most American histories, for instance, give a very different impression of George Washington from that given in *The True George Washington*, a popular account based on primary sources and as free as the author could make it from all statements which might create false impressions.

If there are disconcerting inaccuracies in secondary sources regarding one who was almost our contemporary, much more are they to be found in such sources regarding persons who lived several centuries ago. When we want to be sure of the truth in history we should therefore avoid secondary sources, and if we are obliged to use them, willy nilly, we must use them with great caution.

If we are investigating events in distant places, we shall find the use of secondary sources equally unsatisfactory. In investigating when we are at a distance from the situation on which we pass judgment, we may make mistakes because the information on which we base our decisions is likely to be distorted on its journey. This is especially true not only when the distance is great, but also when there is difficulty of travel or communication because of war, blockade, revolution, or censorship. Thus while it is true, for instance, that we are likely to make errors regarding conditions in Australia, we are far more likely to err regarding the situation in some nearer part of the world which is in turmoil. Of course, the possibility and probability of error become progressively greater, the larger the number of hands through which the news item passes on its journey to the reader. It is therefore highly important in serious matters to get back as nearly as possible to the primary sources of information.

Resorting to primary sources gives no guarantee of freedom from error, however. Many primary sources were once secondary sources, while others, like the Declaration of Independence, were originally propagandist documents, prepared by their authors to harmonize with the biases of their day and of their circle of readers. Primary sources are also not only copies, as we have said, but often inaccurate copies of older documents which are no longer in existence. Such are the oldest manuscripts of the Gospels.

Sometimes primary sources are even deliberate modifications of older sources, either through omission or interpolation, or both. The statement in Matthew 16:18, for instance, "I say unto thee that thou art Peter, and upon this rock I will build my church," is regarded by many scholars as an interpolation. Sometimes sources are even outright forgeries,² like the "Donation of Constantine," a document purporting to convey land and temporal power from the Emperor to the Bishop of Rome. For these reasons, then, if we are to avoid error, we must examine very carefully even our primary sources.

The first step in documentary examination is to make sure that the document is genuine, that is, that it is what it purports to be or what men claim it to be. This process is known as "external" or "textual criticism." It consists in getting in any manner the facts regarding such matters as the origin of the document, its authorship, and the source from which the author drew his information. Such facts are often to be obtained from oral testimony or from other documents. If the person who presents the document to the public has an established reputation for veracity and accuracy, and gives a satisfactory account of how he obtained the source in question, the presumption is thus far in favor of genuineness. If, on the other hand, the document is offered on the unsupported word of irresponsible men or even of supposedly responsible men who do not give a satisfactory account of how they obtained it, no certain conclusion can be reached by the method of direct testimony alone. In such cases the source can receive only the standing accorded to an unidentified witness, which, as has been pointed out, is relatively slight.

Information is also often to be obtained from a study

² John Martin Vincent, *Historical Research* (Henry Holt and Company, New York, 1911), pp. 26-43, especially 31-32.

of the form or appearance of the document itself. No document can be genuine which purports to be the product of a time when the parchment, paper, type or ink used in its preparation was not employed. A typewritten document can not be genuine, for example, if it bears the date 1885 and is written in type such as was not used on typewriters prior to 1890. No document is likely to be genuine if it contains forms of handwriting, spelling, grammar, style, or ideas notably unlike those habitually used by the supposed author. The schoolboy who forges a letter to his teacher in the name of his college-bred mother is not likely to be successful in his duplicity if he writes, spells or uses words like a twelve-year-old.

This process of external criticism may well be illustrated by a consideration of a series of documents published by Mr. Hearst in December, 1927. There were printed what were alleged to be photostatic copies of original documents in Mr. Hearst's possession. One document purported to be an order from the president of Mexico to the secretary of the Mexican treasury, requesting the issue of a pay order for twenty-five thousand dollars to the editor of the *Nation* "as payment for subscriptions and propaganda in favor of the Government of Mexico." Another appeared to show that over a million dollars had been paid to two United States senators for working in the interests of Mexico. The other documents were of the same general tenor.

These documents were immediately subjected to the closest scrutiny. Numerous suspicious circumstances about them were pointed out. First it was noted that "Mr. Hearst's editors did not entirely trust the accuracy of their own revelations. Between editions they altered the date appearing in one of these 'photostat copies'!" It was also observed that the documents were replete with misplaced

accents, words with accents omitted, misspelled words and grammatical errors. One little letter, but ten lines in length, contained twenty-two palpable errors. "Documents alleged to have been taken from Mexico City archives and others said to have been stolen from the New York City consulate appeared to have been written on the same eccentric typewriter." Said Carleton Beals, after analyzing the documents:

Seven stenographers and secretaries, employed in four government offices, were accustomed, it seems, to leave the accent off "órdenes," and they wrote four of the key letters on the same typewriter. Seven stenographers and secretaries in three different government offices, producing nineteen of the key letters, were accustomed to make the utterly ludicrous error "págo." Five stenographers and secretaries in four different government offices, producing seventeen key letters, were in the habit of misspelling "dólares," though probably they had to use this word dozens of times each day. . . .

For the sake of comparison, it might be imagined that some six government offices, under the direct or indirect supervision of President Coolidge, Mellon, and Hoover, each office with a *Jefe* or a private secretary and from one to four stenographers, many of them at times using the same typewriter, were all accustomed, over a period of nearly two years, to make such gross errors as "I seen" and "them people."³

On the strength of such evidence he declared "with unabridged confidence—that every document, without a single exception, is a rank forgery."

In this judgment all careful students concurred. The additional evidence which came later but confirmed this view. It presently appeared that the documents were furnished Hearst by one John Page, Hearst's Mexican representative, a man who two years before had sold to the Philadelphia *Public Ledger* documents which that journal

³ *New Republic*, Vol. XIII, p. 243. See also *Nation*, Vol. CXXV, p. 588; Vol. CXXVI, p. 59.

later discovered to be forgeries and refused to print. Page obtained them from one Avila, a man notorious for his duplicity and one who seemed to be "almost a professional purveyor of dubious documents." In the light of these facts every one, including Hearst, Page, and Avila, admitted the documents to be forgeries.

A more important illustration of the problem of external criticism is furnished by an alleged decree of the Russian government which appeared in the American press in 1918. This document ordered the nationalization of women, that is, ruled that any single woman who did not marry within a specified time might be taken by any man who applied to the proper official for her hand.

External evidence was all against the document being genuine. The press did not give a satisfactory account of its origin. The Russian government declared it to be a forgery. Critics pointed out that it was probably false, because a new government which wished to find favor in the eyes of the world would hardly offend ideas of decency in such a manner. They also observed that a government which was far from enjoying general support at home would be unlikely to defy the strongest traditions and emotions not only of women, but also of all fathers and brothers.

Most Americans nevertheless for many months accepted the alleged decree as genuine. They did not think well of the Russian government at that time, because it was radically socialistic. They were therefore ready to believe any evil which might be said of it, and accepted uncritically any document unfavorable to it. Presently it was discovered, however, that the proclamation in question rested upon two "decrees," supposedly issued by local anarchist groups. And then, after the lapse of several years, it appeared that "the famous 'decree' was invented by oppo-

nents of the Anarchists, either Bolsheviks or bourgeois, in order to damn them with the public.”⁴

The foregoing illustration indicates clearly the dangers of accepting uncritically unverified literary sources. There is, on the other hand, almost equal danger that in criticizing sources one may become unduly skeptical, and may reject on insufficient grounds sources which are genuine. No doubt, for example, some persons who wish to think well of the Soviet government reject as spurious genuine Soviet decrees which do not please them. We must therefore bear in mind these opposing sources of error, and must be especially careful to deal justly with that side of a question which we disfavor.

When it appears that a document is other than it purports to be, there may be no need to study it further, though of course it may be studied all the more intently to determine what its nature and origin really are. If, however, the document is deemed to be genuine, it demands further study. It may be precisely what it claims to be, *e.g.*, a letter from a professional patriot to the governor of his state, and yet be a falsehood from beginning to end. The thorough student has therefore to proceed to what is known as internal criticism. This is the process of determining, not only by examination of the document itself, but also by all other available means, whether or not what the document says is really true.

It is perhaps unfortunate that the making of internal criticism is such a common and familiar act. Performed as it is whenever we read a letter, a street-car advertisement, a newspaper, a magazine, or a book, and rarely tested to see if it is well or ill done, it seems a very easy thing to do. This may be the reason why people generally appraise

⁴ Edward Alsworth Ross, *The Russian Soviet Republic* (The Century Company, New York, 1923), p. 281.

documents very carelessly and unscientifically. Most men, indeed, tend to accept or to reject in the light of their prejudices; in some cases passing upon documents, such as the platforms of their political party and its rivals, without even reading them.

In truth, the making of good internal criticism is often no easy task. It is usually far more difficult than is the appraising of oral testimony. The speaking witness can often, if not usually, be asked to give additional evidence in support of his statements. The document maker can infrequently be asked to do this. It is therefore no mean task to determine the truth of written statements to the effect that the United States Navy is inferior to that of Great Britain, or that numerous prominent Americans are in the employ of Moscow, while it will probably be a labor of generations to determine what measure of truth is to be found in the books dealing with the war guilt of Austria, France, Germany, and Russia.

To a considerable extent internal criticism of documents is made by the same tests which are used in appraising oral evidence. That is, the reliability of the witness and the consistency and reasonableness of his statements are taken into consideration. Since this matter has been presented in Chapter VIII, we shall omit it here. We shall also defer presentation of other tests of written sources as a whole till the end of Chapter XIII. Meanwhile we go on to a study of the value and limitation of specific classes of document.⁵

Inasmuch as many documents are both primary and

⁵ In this connection valuable comments on the worth of written sources are to be found in an article by Jerome Davis, "Finding the Truth in Current Issues," *Social Forces*, Vol. IV (June, 1926), pp. 729-736, and in the little book by Frank K. Walter, *Periodicals for the Small Library*, 5th ed. (American Library Association, Chicago, 1928), pp. 26-54, 65-72, 75-81, 87-89.

secondary sources, primary sources for some facts and only secondary sources for others, it seems best to make no attempt to distinguish the two classes in this phase of the discussion. There are several classes of source regarding which, as a whole, certain facts can be stated, though, of course, we must be on the watch for exceptions. A beginning may be made with government reports—Federal, state, and local. These documents must be considered in several sub-classes. Reports of individual officials who are not under the merit system are usually somewhat partisan documents, and are likely to contain unwarranted generalities and to omit essential facts. Thus, for instance, many persons considered this to be the case when the Secretary of the Navy declared in his annual report for 1918 that Haiti, “under the direction and guidance of naval administration, has, in peace and quiet and just laws well administered, enjoyed development, prosperity, and tranquillity. The marines have not only preserved order but have aided in systems of internal development.”⁶ In his report for the following year the Secretary spoke of the “kind administration of justice” and remarked, “there has been freedom from all suggestion of selfish aims on the part of the occupying civil and military agencies.”⁷ Yet in spite of this optimistic view of the situation, the year 1920 revealed the fact that General Barnett, the Major-General Commandant of the Marine Corps, “was shocked beyond expression” by the behavior of the marines in Haiti, behavior which included peonage and “practically indiscriminate killing of natives.”⁸ Possibly the Secretary may have been right and the Major-General Commandant wrong, though later investigations by competent and apparently unbiased per-

⁶ *Annual Report of the Secretary of the Navy, 1918*, p. 137.

⁷ *Ibid.*, 1919, p. 141.

⁸ *Ibid.*, 1920, p. 306.

sons do not lend support to this view.⁹ In any case, the affair shows that such government reports are not above suspicion.

In the class of partisan documents must also be put many if not most reports of investigations of a department of the government, when conducted by that department or by one in sympathy with it. They are likely to conceal or condone evil conditions, to "whitewash" rather than to expose them. Such, in the eyes of many competent persons, was the report of the Court of Inquiry appointed by the Navy Department to investigate the administration of affairs in Haiti. It completely exonerated the Marine Corps of all charges of evil-doing in the words, referring to the allegation of General Barnett, "There have been no proper grounds for the statement."¹⁰

A second class of government report emanates from special commissions appointed to investigate particular situations. Such commissions may be non-partisan, bi-partisan, or partisan. Non-partisan commissions of this sort usually consist of intelligent and well-trained persons, competent to conduct scientific investigation. They ordinarily represent several distinct points of view on the subject which they consider. Such were the Immigration Commission, the Commission on Industrial Relations and the Chicago Commission on Race Relations. They often employ non-partisan experts to make technical studies, and hold extended hearings in appropriate places. Their findings as to fact may therefore generally be accepted as adequately scientific, though it must be remembered

⁹ Frederick Bausman (and twenty-three others), *The Seizure of Haiti by the United States* (Foreign Policy Association, New York, 1922).

¹⁰ *Report of the Court of Inquiry Appointed by the Navy Department to Investigate the Administration of Affairs in Haiti*, mimeographed, n. d.

that each report has to be judged on its own merits, and that the accuracy of some such reports has been seriously questioned. The report of the Commission on Industrial Relations, for example, was severely criticized in some quarters as being biased. In such a case we get more light on the worth of the findings by studying the minority reports which customarily accompany the main report. The reports of partisan commissions, such as the Court of Inquiry to investigate the administration of affairs in Haiti, have usually the value of ordinary political documents. They consist of one or more expressions of rationalized prejudgments. Finally, bipartisan reports usually consist simply of two conflicting partisan documents, though occasionally a majority report may be scientific and a minority report be partisan, or vice versa.

A third class of government report, the purely scientific, such as bulletins of departments of labor, of education and of the census, are relatively seldom tainted by bias or error. Even in this case, however, accuracy is not universal. In 1920, for instance, the Federal government was embarrassed by census reports of certain cities which were apparently attempts to exaggerate population figures. It was necessary in some cases to have the enumeration repeated in part, and it is certain that even then mistakes slipped by in spite of the best efforts of the Bureau of the Census to eliminate them. Definite evidence of error in the census was obtained by a special study of the Federal Children's Bureau, though this time the error revealed was apparently an unintentional one. Comparison was made of the names of children whose births or deaths were registered in the District of Columbia in the year 1919, with names of children enumerated as under one year of age in the Census of 1920. It was found that the number of children born probably exceeded the number enumerated as under one

year of age by nine and twenty-five per cent, in the case of whites and Negroes respectively.¹¹

Upon turning to privately produced documents we note that there is one class of literature which is unique in the high degree of its accuracy. It includes special studies by scientific men—monographs, doctoral dissertations, and the like. Standard encyclopedias and year-books are also usually reliable. Other works on social topics range all the way from the purely scientific to the purely partisan. Each has therefore to be judged on its own merits.

Some light can be thrown on the value of a book by ascertaining the responsibility of the author. This is done by using the tests applied to persons making oral statements,¹² and also by consulting biographical dictionaries. Special criteria by which to test books, as distinct from authors, are also available. Book reviews show how specialists in the field under consideration appraise the study. Of course, it must ever be borne in mind that reviewers are fallible, exactly like other writers. Before much weight is given to their statements it is therefore desirable to know who they are, or at least to know the reliability of the papers or periodicals in which their reviews are published. Collections of excerpts from reviews and references to other reviews are to be found in *The Book Review Digest*, an annual publication which is most helpful in getting estimates of important American books.

Another valuable test of books is the university stamp of approval. If a book is used regularly and extensively in first-class institutions, the presumption is that it is a useful and scholarly source of information.

The several classes of newspaper and periodical require separate consideration. In the first place, there are many

¹¹ *United States Abridged Life Tables, 1919-1920*, p. 9.

¹² See *supra*, pp. 256-261.

scientific periodicals which exist primarily for the dissemination of knowledge. They do not intend to publish unscientific articles and they live up to their aims remarkably well. While the articles which they print do not always agree with each other, an impossibility in the discussions of growing sciences, they are at least scholarly and well reasoned. Such periodicals are the *American Historical Review*, *Social Forces*, the *Political Science Quarterly* and the *Quarterly Journal of Economics*, to name but a few examples out of many. What is said of these periodicals is equally true of the proceedings of learned societies, such as the *Annals of the American Academy of Political and Social Science* and the *Publications of the American Sociological Society*.

Again, there are periodicals which are propagandist, and which are not overscrupulous regarding what they publish as fact. Such are the official organs of some, if not most political parties, of some reform or so-called reform movements, and of the forces opposed to them. Some periodicals seem even to exist for the sole purpose of catering to economic, political, racial, or religious bias. The accuracy of statements taken from such periodicals must of course be verified with especial care.

A third class of periodical consists of those which are in part propagandist, in the best sense of the term,¹³ but whose chief aim seems to be to disseminate the truth regarding controversial matters. While such periodicals all fall short of their ideals, the infrequency with which they err and the frankness with which they usually admit error indicate that they are making a conscientious and creditably successful attempt to be honest. Such periodicals are the *Survey*, the *Nation*, the *New Republic*, the *Forum*, the *Congressional Digest*, the *Social Service Bulletin* of the

¹³ See *infra*, p. 307.

Methodist Federation for Social Service, the *Information Service* of the Federal Council of Churches, and the publications of the Foreign Policy Association, to mention examples of a small and important company.

Practically all newspapers allege that they aspire to get into the class of propagandists for the truth. Many of them, like that sensational sheet which used to refer to its home as the "Temple of Truth," blandly assume that even now they approximate perfection in this respect. Unfortunately, however, most newspapers do not deserve much public confidence. There is all the more reason, then, for noting as prominent, though by no means the only exceptions: the Springfield (Massachusetts) *Republican*, the *Christian Science Monitor* (except for health matters), the *New York Times*, the *Baltimore Sun*, the *Baltimore Evening Sun*, the *St. Louis Post-Dispatch* and the Manchester (England) *Guardian*.

Proof of newspaper inaccuracy is to be drawn from several sources. First, there is the evidence which we have all noted: newspapers frequently publish statements contradicting those which they have previously made. Second, personal experience may be used. All of us have at some time read in papers accounts of matters which we know were garbled almost beyond recognition. Third, the testimony of our friends is of the same nature. They tell us that interviews which they have given and addresses which they have made have been described in the press in a most distorted fashion. Finally, a number of interesting and important studies of the press have been made by scholarly investigators, which collectively furnish conclusive proof of very serious newspaper inaccuracy.

One of these studies is that with which this chapter was opened. A second is one dealing with domestic matters where, in spite of minor difficulties of reporting, there

should have been tolerable accuracy. The Chicago Commission on Race Relations made a thorough research of the treatment by the press of matters pertaining to the Negro in Chicago. It studied the articles dealing with the Negro which had appeared in 1916 and 1917 in the three Chicago daily papers with the largest circulation. The excellent report of the Commission in these significant paragraphs declared:

Generally these articles indicated hastily acquired and partial information, giving high lights and picturing hysteria. Frequently they showed gross exaggeration. . . . The subjects receiving most frequent and extended treatment in these three papers were: crime, housing, politics, riots, and soldiers. . . . For a public which depends upon newspapers for its information an inordinately one-sided picture is presented. This emphasis on individual crimes specifying Negroes in each offense tends to stamp the entire Negro group as criminal.¹⁴

At another point in the long chapter on this subject the report said:

A careful study of the three selected white daily papers was made covering 1918, the year preceding the riot, to note relative space, prominence, importance, and the type of articles on racial matters. During the year 534 articles appeared on racial matters. . . . Most of the published information concerning the Negro and issues involving him magnifies his crimes and mistakes beyond all reasonable proportions. . . .

In 1918 there were more than 90,000 Negroes in Chicago. Practically all of the more serious crimes in this group, especially those involving whites and Negroes, were given publicity. . . . Crimes, riots, intermarriage, lynchings, and radicalism were the subjects of articles which, in their repetition and accumulative significance, presented a disproportionately unfavorable aspect of the Negro population.

The *Chicago Tribune* published, in 1918, 145 articles which, because of their emphasis on crimes, clashes, political corruption,

¹⁴ Chicago Commission on Race Relations, *The Negro in Chicago* (The University of Chicago Press, 1922), pp. 524-525, *passim*.

and efforts to "invade white neighborhoods" definitely placed Negroes in an unfavorable light. . . . It also published eighty-four articles dealing with Negro soldiers, sports, industry, and personalities, which, aside from flippancy in treatment, did not place Negroes in an unfavorable light. . . . The unfavorable 145 articles contained 487 inches of printed matter, while the less colorful items contained 223 inches.

Front-page space amounting to eleven inches was given to favorable articles, and 158 inches to unfavorable.¹⁵

Other papers treated the Negro, according to this report, very much as did the *Tribune*. Plainly, then, however excellent their intentions may have been, Chicago journalists were obliging their white readers to see the Negro through a glass that warped rather than corrected their vision.

In the light of such evidence as these two notable cases furnish, and a volume could be filled with detailed evidence of this same sort, it becomes plain that newspapers have to be used as sources with great caution. While they are most valuable indexes, their statements must invariably be verified if they are to be used for scientific purposes.

Let us now consider in detail the causes of the unreliability of the press. We must first note, in passing, the simple fact of faulty observation, which has already been discussed. If college men disagree as widely as did Münsterberg's students regarding the apparent size of the moon, it is no wonder that there is much disagreement among reporters about what they see and describe. We cannot doubt, therefore, that too poor observation must be attributed many newspaper errors which we may carelessly be inclined to believe are intentional.

We consider next the kind of error which is caused by anticipating the news. Illustration is found in the reporting of a simple event in the city where it occurred. A

¹⁵ *Ibid.*, pp. 531-532, *passim*.

prominent English journalist addressed a university convocation. A few hours later a professor who had been present at the meeting read an account of the speech in his evening paper. To his surprise, the speaker was quoted as saying many things, none of which he had said, while nothing which he had actually said was reported. When the professor saw the reporter, a mature and reliable student, he inquired the cause of the strange discrepancy. "Well, you see," was the explanation, "the convocation came at eleven o'clock. The paper goes to press at eleven, too. So I called on Mr. A. at his hotel early this morning and asked him what he was going to say. We printed what he told me would be the substance of his speech." This kind of thing is an everyday occurrence in the reporting of addresses for evening papers.

A somewhat similar practice is often used in reporting more or less formal affairs which take place in foreign countries. It is caused by the desires to economize on the cost of cabling and to get news into print as quickly as possible. Said Chester S. Lord, an experienced journalist, to whom we are indebted for a description of this practice:

The London man sends newspaper clippings by mail of events that are likely to figure or reappear in future news, programs of coming events like coronations . . . with all of the plans, arrangements, and the names of persons who are to participate, and the like. When the event happens he cables, for instance: "Madrid Alfonso crowned unchange." "Unchange" means that the coronation of the Spanish king was solemnized without change of program, that the matter sent in advance by mail may be used with what the correspondent now cables. The cable editor in America writes from what the correspondent sends, and from the program slips, a report of the coronation, embellishing it perhaps with a few lines here and there about the cheering multitudes, the elaborate decorations, and the other things that obviously add splendor to every coronation of a king. The cable editor knows right well that if the crowds were sullen or the

decorations were lacking or the soldiers did not strut and shout, the correspondent surely would say so. . . . The editor at this end pads out the skeleton report into readable narrative with no intention of deceiving anybody.¹⁶

Such a story may be interesting, we must admit, and also not seriously misleading, but it is certainly not to be used as a source by the person who is determined to attain a maximum of accuracy.

Another source of error is found in carelessness in handling material. In the following case the carelessness was not solely that of newspaper men, but the illustration, for which we are indebted to Bruce Bliven, is nevertheless pertinent. On February 12, 1923, *Commerce Reports*, the weekly magazine of the Federal Department of Commerce, contained an article entitled, "Trend of World Sugar Production and Consumption." At the beginning of the article appeared a summary in large type, which said:

In 1921-22, the world sugar consumption was 500,000 tons greater than production, and the prospects are that it will be 700,000 tons greater in 1922-23. If these prospects materialize, the heavy accumulated stocks of the end of the 1920-21 season will have given way by the end of 1922-23 to a carry-over below the pre-war normal figure.

There was nothing alarming in this summary, or in the entire article, but an alarming story was given to the public when the Department, according to its practice, prepared a newspaper "release" on the article. The person who prepared the "release" gave the original article almost verbatim. Unfortunately, however, he did not quote the summary, but began his story, "Production for 1923 only 125,000 tons higher than last year. Consumption needs estimated at 725,000 tons above production." The result

¹⁶ Chester S. Lord, *The Young Man and Journalism* (Copyright, 1922, by The Macmillan Company, New York. Reprinted by permission), p. 109.

was that the newspapers were filled with the scare headlines, "Sugar shortage," and with stories based on the misleading heading of the release. Speculation in sugar immediately became active, prices soared, and the best efforts of the Department of Commerce and of the newspapers could not for months allay public panic and restore the price of sugar to its former level.¹⁷

Another important illustration of harm caused by carelessness in handling material is found in a war-time experience of Senator La Follette. On September 20, 1917, the Associated Press told the newspapers of the country that in a speech at St. Paul Senator La Follette had said: "I wasn't in favor of beginning the war. We had no grievance." In reality he had said, "I was not in favor of beginning the war. I don't mean to say that we hadn't suffered grievances; we had—at the hands of Germany. Serious grievances!" It took eight months for Senator La Follette to get the Associated Press to retract its erroneous report, which was the basis of the demand for his expulsion from the Senate, a demand which beclouded his title to his seat for more than fourteen months, and which did him great injustice.¹⁸

The notorious alleged "Fourth of July Fake" was another error that rose from mistakes in handling the news. The story is as follows: On July 3, 1917, the Navy Department received word from Admiral Gleaves that all four of the groups of transports in General Pershing's expeditionary force had arrived safely in a French port, after successfully repelling two submarine attacks. A statement of the facts was at once issued to the press, which pub-

¹⁷ *New Republic*, Vol. XXXIV, pp. 205-206.

¹⁸ La Follette-Wheeler Joint National Committee, *The War Record of Robert M. La Follette*. See also Oswald Garrison Villard, *Prophets, True and False* (Alfred A. Knopf, New York, 1928), p. 192.

lished them to the nation. Three days later the London correspondent of the Associated Press wired that officials at the American flotilla base in English waters believed that the transports had not been attacked by submarines at all. They declared that the supposed U-boats were probably only floating spars or blackfish. This dispatch the Associated Press released before consulting Washington. Though the story put the word of anonymous persons against that of an admiral of the navy it was eagerly seized and published, both by partisan papers which were ready to prove that the Secretary of the Navy and the Committee of Public Information had perpetrated a hoax, and by papers which were generally friendly to the administration. For weeks both the Secretary and the Committee were subjected to a fire of hostile criticism which persisted even after the receipt and publication of a full written report from Admiral Gleaves, a report which entirely corroborated his original telegram. It was finally learned that the Associated Press correspondent in Queenstown had been asked by the London office if there was a Queenstown end of the story. After the American naval officer in charge at Queenstown had refused to make a statement, the reporter fell in with several unknown officers and men at the hotel and about town. He got their impressions and prepared a message to send back to London over a "private" wire, for the private information of his superiors. Since the statement was not intended for publication, he did not submit it to censorship. The men in the London office made the mistake of sending it on, still uncensored, and precipitated all the trouble.¹⁹

We now turn to consider more difficult problems of foreign news gathering. Illustration may well be furnished

¹⁹ George Creel, *How We Advertised America* (Harper and Brothers, New York, 1920), Chap. III.

by an account of the forces which impinged on the news as it traveled in 1917 from the western battle front to the eager reader in Shakopee, Minnesota. Each story had to pass through many filters and refracting media of diverse types, and also had to go, in places widely separate in space, through several modifying agencies of a single type. In this chapter each important type will be noted only once, however, and some of the minor types can not be noted at all.

An officer of the French High Command has prepared, let us say, on the basis of information which has come to him through the now familiar modifying media of observation, possible confusion of inference with observation, and the possibly erroneous testimony of original witnesses, a proposed communiqué of the day. He has prepared this communiqué as a propagandist. The communiqué then undergoes final military censoring by the High Command. Now comes the release of the communiqué and presently the story is translated into English. It happens, however, that some words in French do not have an exact equivalent in English, while supposedly equivalent words in the two tongues frequently have very different significance. Translation must therefore frequently refract the meaning of the words and hence of the ideas which are used.

For reasons which will be considered presently, the reporter of the American news agency does not care to send to the United States parts of this or of other stories he has received. He also makes allowance for the expense of cabling and for the congestion of the cables by omitting certain statements which he would like to send, and by boiling down others. He is also likely to make allowance for the views of the heads of the agency which controls the cables. "Censorship," said Lippmann, "operates . . . through congestion and the resultant need of a system of pri-

ority. Congestion makes possible good and bad service, and undesirable messages are not infrequently served badly.”²⁰ These actions result in further changing the nature of the story, for it is impossible, however excellent one’s intent and one’s ability may be, to convey a wholly accurate view of a complex situation in the compass of a brief dispatch.

The reporter then puts his story on the cable in code. A dispatch which reads:

Washington, D. C., June 1.—The United States regards the question of German shipping seized in this country at the outbreak of hostilities as a closed incident,

may pass over the wires in the following form:

Washn 1. The Uni Stas rgds tq of Ger spg seized in ts cou at t outb o hos as a clod incident.²¹

Of course, coding and uncoding a message give another opportunity for error.

Of all the stories which the reporters of the news agency may collect, from either foreign or domestic sources, the agency distributes to the newspapers those which its officials at sundry places think appropriate. The local editor then exercises a supremely important function. He decides where attention is to be directed, and “the power to determine each day what shall seem important and what shall be neglected is a power unlike any that has been exercised since the Pope lost his hold on the secular mind.”²² He selects for publication “all the news that’s fit

²⁰ Walter Lippmann, *Liberty and the News* (Copyright, 1920, by The Macmillan Company, New York; George Allen and Unwin, Ltd., London. Reprinted by permission), p. 46.

²¹ Walter Lippman, *Public Opinion* (Copyright, 1922, by The Macmillan Company, New York; George Allen and Unwin, Ltd., London. Reprinted by permission), p. 64.

²² Walter Lippmann, *Liberty and the News* (Copyright, 1920, by The Macmillan Company, New York; George Allen and Unwin, Ltd., London. Reprinted by permission), pp. 47-48.

to print," he being the judge of its fitness, and of the space and position which it is to receive. The story then undergoes the risk of error in copying and typesetting, and the chance of distortion by the headline writer, and finally passes through the modifying media of hasty and careless reading, personal interpretation of words, personal bias, and personal judgment into the mind of the reader.

We must now consider the influences behind the filters in the minds of the reporter, the representative of the news agency, and the editor. One of the first forces which occurs to us is the influence of the advertiser. The paper gets most of its revenue from him. Naturally, then, it avoids offending heavy advertisers, even at the cost of distorting or suppressing news which they would not like to have published. Ross cites ten significant cases of this occurrence, "hardly a third of the material" that had come to his attention,²³ Irwin reports a number of significant cases,²⁴ and Sinclair describes many such events in his study of American journalism, *The Brass Check*. None of their cases, however, equals the following in power to reveal the extremes to which advertisers will go in the pursuit of their immediate economic interests.

Early in the summer of 1924 a case of black smallpox, a particularly virulent form, was discovered in a large city of the Northwest. A newspaper reporter at once interviewed the municipal Health Commissioner. The latter declared that the matter should be given wide publicity, with warning that only prompt vaccination of thousands of unprotected persons could avert an epidemic. The reporter wrote an appropriate "story" on the subject. It was referred to the advertising department of his paper, which,

²³ Edward Alsworth Ross, *Changing America* (The Century Company, New York, 1919), pp. 117-123.

²⁴ *Collier's*, Vol. XLVII (May 27, 1911), p. 16 +.

in turn, submitted it to a group of retail merchants. At once three of the heaviest advertisers in the paper threatened to withdraw their advertising if the story were published. They feared it might hurt business! The story was not published, either by that paper or by any of its competitors. Business was protected, temporarily, but the epidemic came and before a year had passed there were fourteen hundred cases and over three hundred and fifty deaths from smallpox in that city!

Similarly, in the summer of 1925, the newspapers of a large city on the Pacific coast suppressed the facts regarding a local epidemic of infantile paralysis. This policy was commonly approved in the city, on the ground that if the news were broadcasted the tourist trade would be seriously injured!

Sinclair makes another important charge against the press. This is that some reporters and most editors and owners deliberately and of their own choice pander to the interests of the capitalist class. In *The Brass Check* he gives a detailed account of his personal experience with the press from 1905 to 1919. His mode of treating the subject is far from dispassionate, but this fact is more than offset by the consideration that he is most circumspect about giving dates and naming papers, editors, reporters and other persons with whom his narrative deals. Many of his statements stand simply on the strength of his own testimony, plus the facts that the papers concerned have neither made formal and reasoned denial of his charges, nor have they brought suit against him for libel, though it can not be doubted that they would greatly like to obtain judicial conviction of Sinclair as an irresponsible liar. Much other evidence offered in support of his statements can be verified simply by consulting the files of the papers named. There is no doubt, therefore, that the unbiased reader will close

The Brass Check abundantly satisfied that Sinclair has proved a large part of his case. He has demonstrated that, on many occasions, news agencies and editors of leading American newspapers have deliberately fed the public misinformation regarding laws, organizations, and events, both at home and abroad, which affected the profits of newspaper owners and their business associates.

In spite, however, of important evidence that on many occasions journalists have deliberately pandered to the interests of the capitalist class, there is an explanation of the prevailing attitude of the press which is simpler and more reasonable than that of Sinclair. Bruce Bliven well presented it in the words:

I believe it is a fair statement that ninety per cent of the editors of the country's conservative papers sincerely endorse the doctrines they set forth. This is the result of a perfectly simple process of "natural selection." A metropolitan newspaper to-day is a serious business enterprise with a large invested capital and a heavy overhead. Naturally, a man does not attain to the important post of director of such an enterprise unless he has proved his efficiency; and efficiency often consists (not always, of course) first, in holding ideas which are in agreement with those of the active owners; and second, in doing such whole-hearted and absorbed work as no man ever accomplished with his tongue in his cheek. Speaking in general, such a man does not think and act as he does because he is an editor; he is an editor because he thinks and acts as he does. . . . Certainly, most newspapers support the capitalistic organization of society; but why not? This is a capitalistic society.²⁵

It is well to note, furthermore, that an editorial bias is not necessarily, of course, in favor of the capitalist class. It is usually in favor of whatever is popular with the social class of which the editor is a member, be it recognition of Russia, a smaller navy, repeal of the Prohibition Amend-

²⁵ *New Republic*, Vol. XXXV, p. 18.

ment or stadia for universities. Moreover, and this is an important fact which Sinclair seems to ignore, socialists and capitalists alike are biased, and to about the same degree, by the background of their experiences. It is therefore easy to understand why Sinclair does not advise his readers to read labor or socialist papers as a means of attaining the truth. It would profit them nothing. They would simply exchange one set of biased editors for another.

The bias that affects editors and owners affects reporters and correspondents as well. Lippmann and Merz found this to be notably true of the news gatherers in Russia, of whom they said:

The chief censor and the chief propagandist were hope and fear in the minds of reporters and editors. . . . These subjective obstacles to the free pursuit of facts account for the tame submission of enterprising men to the objective censorship and propaganda under which they did their work.²⁶

There are other reasons why newspapers are untrustworthy sources of information which are probably at least as important as the foregoing. Social interests and ambitions, for example, play their part in controlling press utterances. An editor can hardly attack vigorously men with whom he wishes to fraternize, or with whose families his wife aspires to associate. He would be most unusual, moreover, if he were not strongly inclined to favor his friends and their interests. Influences such as these powerfully affect the editor and his treatment of the news. Reporters are also affected by these same considerations. Irwin tells us that this is notably true of Washington correspondents. These men find that sources of news are open to those whose reporting favors the rich and powerful

²⁶ Lippmann and Merz, *loc. cit.*, p. 3. See also *New Republic*, Vol. XXXVII, pp. 252-254.

and closed to those whose reporting is unfavorable. So he concurs with the judgment of a progressive Republican who said: "I've seen a correspondent sail into Washington shooting guns to port and starboard and turning all his searchlights on the shame of the Solons. I've seen him six months later eating out of every official hand between the White House and the Capitol."²⁷

Without doubt the most important cause of distortion of the news is the desire to please the readers. This is commonly done by toning reports down or by playing them up. Prominent journalists frankly defend the practices of minimizing and of exaggerating. Said Mr. Lord on this point: "The editor is tempted to exaggeration because a little exaggeration makes it a little more interesting. . . . The merchant who exaggerates his wares sells more than the man who does not. . . . But the editor must use exaggeration with great discretion, must not pervert the truth. Gross exaggeration becomes downright lying."²⁸ The scientifically minded person finds it hard to see how any exaggeration is not a perversion of the truth. Whether or not he is right in his judgment, however, we must recognize that once the practice of exaggeration is begun, there is no logical stopping-place. The reporter can justify to himself ever greater and greater exaggeration, till he finally arrives at the position held by the man who justified an utterly false report, the product simply of his own vivid imagination, in the words, "But I had to have a story! I must make a living!"

The practices of toning down or playing up news are so common that they merit detailed illustration. We note first a case of toning down the news by suppressing certain

²⁷ *Collier's*, Vol. XLVII (July 1, 1911), p. 18.

²⁸ Chester S. Lord, *The Young Man and Journalism* (Copyright, 1922, by The Macmillan Company, New York. Reprinted by permission), pp. 70-71.

facts. It is concerned with the reporting of the 1924 convention of a well-known organization of ex-soldiers. It was common knowledge in the city which entertained this organization that leading hotels put their furniture in storage and substituted iron cots before receiving the men, that while the convention was in the city girl employees were sent home from offices in taxicabs, that women were advised to keep out of the Loop District at night, even though accompanied by escorts, that there was an orgy of drinking, and that the police were apparently helpless or spineless in the face of the situation. All these facts were real news. So far as can be determined, however, with the exception of a single cartoon which appeared after the convention had adjourned, no hint of them appeared in the papers. The editors could not afford to offend the members of the organization.²⁹

Another illustration deals with playing up news in a way which amounts to real fabrication. In 1924-1925 the Russian sociologist S., who had been in 1917 personal secretary to Premier Kerensky, was teaching in a university of the Northwest. He was one day interviewed regarding his experiences in the Revolution by the reporter of the leading local newspaper. Three months later he was surprised to find that the journal had begun in its Sunday supplement a series of three articles under the heading, "Robinson Crusoe in Red Russia." He himself was playing the title rôle. As the title suggests, the articles were extremely sensational and misleading, and not at all such as a man of science wishes to have associated with his name. After the second article appeared, Professor S. protested to the editor, and the reporter who had interviewed him called on him again. The conference was fruitless. The reporter could not or would not stop the publication of the series.

²⁹ See also *Nation*, Vol. CXXIII, p. 417.

Finally he did promise, however, to have the last article prefaced by a specific statement to the effect that Professor S. was not in any way responsible for the series. Instead, however, there was published the false and misleading statement: "‘It is a good story and adheres to the facts . . .,’ Professor S. . . . says . . . ‘I wish to make it plain that this story is not my story, but a story by another writer about me.’” Then the series came to a close under the subtitle, “How P. . . . S. . . ., now a Professor at the University of M. . . ., Found the Footprint in the Sand that Told Him the Savages Had Come, And How the Gallant Schoolgirls in the Battalion of Death Held the Winter Palace against the Savages.” The article was made vivid with pictures of the Battalion of Death and the Winter Palace, and also with illustrations taken from motion-picture films of the Reign of Terror in the French Revolution. All were supplied with sensational titles. The text of the story consisted of the reporter’s own imaginative paragraphs, interspersed with supposed quotations which were very different from anything in either Professor S.’s statements or in his books on the Russian Revolution.

Many pages could be filled with other illustrations of this sort, but lack of space forbids giving more than one more example. It is a story, published by a leading New York paper in October, 1914, which was falsely attributed to two young American women who had just returned from Germany. The paper said:

They were twice mobbed as Russian spies and saved by German officers. They saw two other women who had been stripped naked by a mob, marched through the streets at the point of bayonets. . . . Dresden was overrun with Russian spies. They saw two who were disguised as women arrested. One was thrown into the Elbe and drowned, and the other was shot half an hour later. . . . At the custom house at Lindau they saw a man and a woman arrested; the pair drew revolvers and shot down the cus-

toms inspectors and made a dash for the Swiss line. . . . Both were shot down.

Not a single one of these statements had been made to the reporter by the young women. No one can estimate the great wrong which their publication did to the German people, though the grave danger which they caused to the American colony in Dresden is a matter of history.

It may seem extraordinary that great newspapers or their representatives should stultify themselves to the extent that these journals did on these occasions, but the reasons are easily found. Norman Angell stated them so admirably that he must be quoted at length. He wrote:

What line must be followed by a popular paper desiring to guard its circulation against the inroads of a rival? . . . A paper which, during the war, refrained from printing dubious German atrocity stories could not hope to do as well as one which appeared with alluring tales of German corpse factories. Thus, in the competitive process, a vicious circle is established. Public taste calls forth from the ingenious editor corpse-factory stories; these, inflaming the temper of the public, render that public less able to hear patiently and to give any consideration to the facts which might offset in their minds the effects of the atrocities. The editor finds himself obliged to become progressively one-sided. It is not, be it noted, a matter of expressing editorial opinions, but of selecting the facts which the readers shall know. . . . If the great newspaper trusts . . . had to live on the patronage of the class of readers which is prepared to hear both sides, those big concerns would be utterly bankrupt. . . . The "Daily Mail," or the Hearst Press, lives by dealing in a form of politics, when it deals with politics or public questions at all, which will appeal most readily to the tens of millions, to the tea-shop waitress or the school girl typist. That is to say, it must touch some feeling easily aroused; must not puzzle them by upsetting conceptions that have become familiar; and must present so simple a case that it will hold attention in competition with the rattle of Tube and factory, or the fatigue of the day's end.³⁰

³⁰ *Nation and Athenæum*, Vol. XXXIV, p. 114.

Bruce Bliven aptly stated the situation when he said:

The most fundamental problem of all for honest and intelligent journalism is, of course, the fact that nobody, broadly speaking, really wants the truth—though we all insist that it is our sole desire! The radical wants statements which support a radical point of view; the liberal wants liberalism and the conservative, reaction. It is a universal human failing to close our minds against information which does not fit in with our preconceptions. Your favorite newspaper is your favorite quite as much because of the things it leaves out as those it prints. In short, the chief frailty of the newspapers is the frailty of human kind.³¹

Our last cause of newspaper unreliability is the secret use of money, as in subsidy and bribery. It is impossible to tell how common either of these practices may be. It is a virtual certainty, however, that only a small proportion of such transactions is ever discovered. All parties have every reason for concealing them, and a reasonably clever person can commit many such offenses without giving the slightest tangible ground for suspicion. Let us note examples of these causes of journalistic dishonesty.

First, we have what may be called simply subsidy. Fremont Older, for many years managing editor of the San Francisco *Bulletin*, furnished a frank statement of such payment in his autobiography, where he stated, "The *Bulletin* was on the payroll of the Southern Pacific Railroad for \$125 a month. This was not paid for any definite service, but merely for 'friendliness'."³² It was a "friendliness," of course, which tended to prevent the people of California from learning through that paper the truth about the most powerful business and political influence in the state.

³¹ *New Republic*, Vol. XXXV, p. 17.

³² Fremont Older, *My Own Story* (Copyright, 1926, by The Macmillan Company, New York. Reprinted by permission), p. 23.

Such subsidy is only a very short step removed from bribery, our next point, and easily leads to it. Presently, reported Older, the *Bulletin* was given an additional \$125 per month as the price of making only a weak support of the proposed new San Francisco charter. It was next given a third \$125 per month to support Gage for governor of California. Finally, it was paid \$7,500 to support Wells for mayor of San Francisco.³³ Here we have a frank statement of the prostitution of its chief function by an important newspaper. How often such bribery occurs no one can tell, though we have occasional records of other cases.³⁴ The fact that bribery has ever occurred, however, should be sufficient to put us on our guard.³⁵

We turn from the study of the press to consider briefly the value of records as source material. Records are of many kinds. Among the more important are those of courts, charity organization societies and other public and semi-public institutions. It would require many pages to consider all such sources in detail. Suffice it here to say that even official records need to be scrutinized carefully. Divorce statistics, for instance, are inaccurate because persons do not always present the true reasons for desiring a separation. Inaccurate statements of informants also vitiate statistics of the causes of arrest, death, and many other subjects. Recently, for example, a grand jury in a western city was startled to learn that, according to police records, 930 Negroes had been convicted in the city in the last calendar year. Two independent examinations of original police records showed, however, that the report was far from the truth. But 389 Negroes had been arrested, and only 310 convictions had resulted!³⁶ The mistake

³³ *Ibid.*, pp. 27-31, *passim*.

³⁴ See also *Collier's*, Vol. XLVII (July 8, 1911), p. 16.

³⁵ See also *infra*, pp. 312-315.

³⁶ *Opportunity*, Vol. VI, p. 172.

arose, it presently developed, through the extraordinary method of classification which was used by a police officer. He deducted from the total number of arrests the total number of those arrested who were booked as white, and called "Negro" the number remaining, though this group really consisted of Negroes, Mongolians, Indians, and persons whose race was not recorded.

Finally, there are miscellaneous documents issued for a host of purposes—business, educational, and dishonest propagandist. As sources of scientific information they must all be considered carefully on their individual merits, the origin, purpose, and proof of accuracy of each being given due consideration.

There remains to be mentioned only the indirect testimony of written sources. In the first place, statements which are not in harmony with the usual views of biased sources may be considered to partake of the character of admissions, and are especially valuable. If, for example, the *New York Herald Tribune* declares that President Hoover has done some great and good deed, its assertion must be discounted, while if the *New Republic* makes the same assertion it has much significance. On the other hand, of course, praise of Senator Wheeler would count for far more if found in the pages of the *Herald Tribune* than in the columns of the *New Republic*.

Again, just as untruthful individuals make true statements regarding matters in which they are not interested, so unreliable books, periodicals, and newspapers may be sources of valuable information. Their accounts of celebrations, sports, and other noncontroversial matters may illuminate some subject of importance to the student. Likewise their advertisements may throw light on the life and customs of the community in which they circulate. Evidence that the American people did not lead an altogether

frugal life during the World War, for instance, is found in war-time advertisements of expensive automobiles, musical instruments, and sporting goods.

We have considered written sources and means of obtaining accurate information from them. We are now ready to consider ways in which individuals, newspapers, and periodicals intentionally create false impressions. To this end the next chapter is devoted to the subject of dishonest propaganda.

CHAPTER XIII

DISHONEST PROPAGANDA

THE EMS TELEGRAM¹

On July 2, 1870, the Spanish ministry decided in favour of the accession to that throne of Leopold, Hereditary Prince of Hohenzollern.

In France a *casus belli* was being sought against Prussia which should be as free as possible from German national colouring; and it was thought one had been discovered in the dynastic sphere by the accession to the Spanish throne of a candidate bearing the name of Hohenzollern.

In the very fact that the French cabinet ventured to call Prussian policy to account respecting the acceptance of the election, and to do so in a form which, in the interpretation put upon it by the French papers, became a public threat, lay a piece of international impudence which, in my opinion, rendered it impossible for us to draw back one single inch.

On July 12 I received telegrams from which it appeared that the King [of Prussia] was continuing to treat with Benedetti [the French ambassador], even after the French threats and outrages in parliament and in the press, and not referring him with calm reserve to his ministers. During dinner, at which Moltke and Roon were present, the announcement arrived from the embassy in Paris that the Prince of Hohenzollern had renounced his candidature in order to prevent the war with which France threatened us. My first idea was to retire from the service, because, after all the insolent challenges which had gone

¹ *Bismarck, the Man and the Statesman, Being the Reflections and Reminiscences of Otto, Prince von Bismarck, Written and Dictated by Himself after His Retirement from Office*, translated from the German under the supervision of A. J. Butler, Late Fellow of Trinity College, Cambridge (Harper and Brothers, New York, 1899), Vol. II, pp. 87-102, abridged.

before, I perceived in this extorted submission a humiliation of Germany for which I did not desire to be responsible.

I was very much depressed, for I saw no means of repairing the corroding injury I dreaded to our national position from a timorous policy, unless by picking quarrels clumsily and seeking them artificially. I saw that war was a necessity, which we could no longer avoid with honor.

Having decided to resign, in spite of the remonstrances which Roon made against it, I invited him and Moltke to dine with me alone on the 13th, and communicated to them at table my views and projects for doing so. Both were greatly depressed, and reproached me indirectly with selfishly availing myself of my greater facility for withdrawing from service.

During our conversation I was informed that a telegram from Ems was being deciphered. When the copy was handed to me it showed that Abeken had drawn up and signed the telegram at his Majesty's command, and I read it out to my guests,² whose dejection was so great that they turned away from food and drink. On a repeated examination of the document I lingered upon the authorization of his Majesty, which included a command, immediately to communicate Benedetti's fresh demand

² The telegram ran as deciphered:

"His Majesty writes to me: 'Count Benedetti spoke to me on the promenade, in order to demand from me, finally in a very importunate manner, that I should authorize him to telegraph at once that I bound myself for all future time never again to give my consent if the Hohenzollerns should renew their candidature. I refused at last somewhat sternly, as it is neither right nor possible to undertake engagements of this kind *à tout jamais*. Naturally I told him that I had as yet received no news, and as he was earlier informed about Paris and Madrid than myself, he could clearly see that my government once more had no hand in the matter.' His Majesty has since received a letter from the Prince. His Majesty having told Count Benedetti that he was awaiting news from the Prince, has decided, with reference to the above demand, upon the representation of Count Eulenburg and myself, not to receive Count Benedetti again, but only to let him be informed through an aide-de-camp: That His Majesty had now received from the Prince confirmation of the news which Benedetti had already received from Paris, and had nothing further to say to the ambassador. His Majesty leaves it to your Excellency whether Benedetti's fresh demand and its rejection should not be at once communicated both to our ambassadors and to the press."

and its rejection both to our ambassadors and to the press. I put a few questions to Moltke as to the extent of his confidence in the state of our preparations, especially as to the time they would still require in order to meet this sudden risk of war. He answered that if there was to be war he expected no advantage to us by deferring its outbreak.

In view of the attitude of France, our national sense of honor compelled us, in my opinion, to go to war; and if we did not act according to the demands of this feeling, we should lose, when on the way to its completion, the entire impetus towards our national development won in 1866.

The gulf, which diverse dynastic and family influences and different habits of life had in the course of history created between the south and north of the Fatherland, could not be more effectually bridged over than by a joint national war against the neighbor who had been aggressive for many centuries.

All these considerations, conscious and unconscious, strengthened my opinion that war could be avoided only at the cost of the honour of Prussia and of the national confidence in it. Under this conviction I made use of the royal authorization communicated to me through Abeken, to publish the contents of the telegram; and in the presence of my two guests I reduced the telegram by striking out words, but without adding or altering, to the following form: "After the news of the renunciation of the hereditary Prince of Hohenzollern had been officially communicated to the imperial government of France by the royal government of Spain, the French ambassador at Ems further demanded of His Majesty the King that he would authorize him to telegraph to Paris that his Majesty the King bound himself for all future time never again to give his consent if the Hohenzollerns should renew their candidature. His Majesty the King thereupon decided not to receive the French ambassador again, and sent to tell him through the aide-de-camp on duty that his Majesty had nothing further to communicate to the ambassador." The difference in the effect of the abbreviated text of the Ems telegram as compared with that produced by the original was not the result of stronger words but of the form, which made this announcement appear decisive, while Abeken's version would only have been regarded as a fragment of a negotiation still pending, and to be continued at Berlin.

After I had read out the concentrated edition to my two guests,

Moltke remarked: "Now it has a different ring; it sounded before like a parley; now it is like a flourish in answer to a challenge." I went on to explain: "If in execution of his Majesty's order I at once communicate this text, which contains no alteration in or addition to the telegram, not only to the newspapers, but also by telegraph to all our embassies, it will be known in Paris before midnight, and not only on account of its contents, but also on account of the manner of its distribution, will have the effect of a red rag upon the Gallic bull. Fight we must if we do not want to act the part of the vanquished without a battle. Success, however, essentially depends upon the impression which the origination of the war makes upon us and others; it is important that we should be the party attacked, and this Gallic overweening and touchiness will make us if we announce in the face of Europe, so far as we can without the speaking-tube of the Reichstag, that we fearlessly meet the public threats of France."

This explanation brought about in the two generals a revulsion to a more joyous mood, the liveliness of which surprised me. They had suddenly recovered their pleasure in eating and drinking and spoke in a more cheerful vein. Roon said: "Our God of old lives still and will not let us perish in disgrace." Moltke so far relinquished his passive equanimity that, glancing up joyously towards the ceiling and abandoning his usual punctiliousness of speech, he smote his hand upon his breast and said: "If I may but live to lead our armies in such a war, then the devil may come directly afterwards and fetch away the 'old carcass.'"

In this account of the circumstances leading to the Franco-Prussian War is recorded the confession of a notable piece of dishonest propaganda. Bismarck falsely led the French people to believe that their ambassador had been insulted, and thereby deliberately goaded them into demanding a declaration of war. This war might well have been averted. Its coming cost the French and German people many thousands of lives and presently led to the problem of Alsace-Lorraine, a problem which was itself an important cause of the overwhelming catastrophe of the World War.

This subject of dishonest propaganda we are now to consider.

In its original sense the term "propaganda" means simply an effort to propagate an idea. It bears no stigma of dishonesty or secrecy. Sincere teaching and preaching are, in this sense of the term, propaganda. Socrates was a propagandist. So were St. Paul and St. Francis Xavier. In marked contrast to this honest kind of propaganda there is a "dishonest propaganda," *the creation of public opinion by the spread of misinformation which is known to be such by those who spread it.* It is this kind of propaganda with which we are here concerned.

Some one may perhaps ask if all creation of public opinion by the spread of misinformation is to be condemned. Is it always desirable that the public should have the whole truth? Is it not better, at times, that something should be kept back from a people, or that it should actually be misinformed? This is the view of many well-meaning persons. It is a very dangerous view, however. Walter Lippmann well explained just why it is a grave menace to the social order when, in speaking of the press, he said:

The news columns are common carriers. When those who control them arrogate to themselves the right to determine by their own consciences what shall be reported and for what purpose, democracy is unworkable. Public opinion is blockaded. For when a people can no longer confidently repair "to the best fountains for their information," then any one's guess and any one's rumor, each man's hope and each man's whim becomes the basis of government. All that the sharpest critics of democracy have alleged is true, if there is no steady supply of trustworthy and relevant news. Incompetence and aimlessness, corruption and disloyalty, panic and ultimate disaster, must come to any people which is denied an assured access to the facts. No one can manage anything on pap. Neither can a people.

Statesmen may devise policies; they will end in futility, as so

many have recently ended, if the propagandists and censors can put a painted screen where there should be a window to the world. Few episodes in recent history are more poignant than that of the British Prime Minister, sitting at the breakfast table with that morning's paper before him protesting that he cannot do the sensible thing in regard to Russia because a powerful newspaper proprietor has drugged the public. That incident is a photograph of the supreme danger which confronts popular government. All other dangers are contingent upon it, for the news is the chief source of the opinion by which government now proceeds. So long as there is interposed between the ordinary citizen and the facts a news organization determining by entirely private and unexamined standards, no matter how lofty, what he shall know, and hence what he shall believe, no one will be able to say that the substance of democratic government is secure.³

This general statement of the influence of dishonest propaganda is illustrated by an important episode in American politics. In 1924, a child labor amendment to the Constitution of the United States was submitted to the several states. This amendment had the well-nigh unanimous support of sociologists, economists, and social workers. The principle which it embodied had been endorsed by the last three presidents of the United States. The amendment itself had the support of the three leading candidates for the presidency, of the platforms on which they were running, and of a large majority of the members of both houses of Congress. It seemed to be a foregone conclusion that it would be ratified speedily.

Then business interests mobilized their dishonest propaganda against the amendment. They spent money lavishly for speakers, literature, and newspaper advertising, and carried on a campaign of misrepresentation which has seldom been equaled in magnitude and insidiousness. The

³ Walter Lippmann, *Liberty and the News* (Copyright, 1920, by The Macmillan Company, New York; George Allen and Unwin, Ltd., London. Reprinted by permission), pp. 10-13.

public, largely lacking in the critical faculty, was utterly unable to withstand the assault. Most men believed what they read or were told. Probably they did not take the trouble to read the few score words of the text of the amendment. Instead they solemnly echoed the lies that it would prevent a seventeen-year-old girl from washing dishes for her mother, that it was a Bolshevik device to undermine the home, and other equally silly assertions. The result was that the people of Massachusetts, whose legislature had been one of six to urge Congress to submit the amendment, overwhelmingly defeated it on an advisory referendum, and the legislatures of many other states speedily rejected it. The whole affair was a tragic illustration of the fearful power of dishonest propaganda, when backed by great financial resources.

Let us now consider the general ends for which dishonest propaganda is carried on, in order that we may be prepared to protect ourselves from it. All dishonest propaganda may be put in one of two classes. The first includes efforts to create a false impression regarding sources of information and of ideas. Sometimes attempts are made to conceal one's own motives. A coal operator, for example, who has no real interest in religion, may encourage a revivalist to visit his mining camps. Ostensibly he is interested in the spiritual welfare of his employees. In reality he wants to fill their minds with ideas that will drive out thoughts regarding their labor troubles. It is alleged that this was the motive which impelled certain operators, when a strike was brewing some years ago, to invite America's best-known revivalist to tour the mining counties of West Virginia, and to offer him the use of a private car.

Again, attempts may be made to conceal the source of ideas which are being spread. The secretary of a chamber

of commerce, let us say, wishes a senator of the United States to vote for a particular measure. He telephones to many members of the chamber and gets their consent to send to the senator, over their signatures, telegrams urging him to favor the bill. The members have little knowledge of the measure, they consent largely because of the prestige of their secretary. He then sends telegrams to the senator, taking pains to word them in different ways, and to dispatch them at appropriate intervals, so that they will appear to have been sent independently and spontaneously by many voters. Sometimes, too, a press bureau may disseminate stories with the suggestion that the source of the release be falsified. In the spring of 1924, for example, the Republican National Committee's News Bureau put on its releases a footnote suggesting that journals might "use this service in whole or in part, without any credit. Papers are at liberty to use 'Special Correspondence,' 'From — Washington Bureau' or any similar designation."⁴

Similar care, of course, is used to conceal the source of the propaganda when a "Walk and Be Healthy Week" is privately sponsored by the associated retail shoe dealers.⁵ Otherwise scandal results, as when the fact was revealed that the casket makers, undertakers, and monument makers were secretly active in promoting the sentiment that the bodies of our soldier dead should be brought home from France for burial.

Finally, one may spread false reports regarding the motives of others. This has been done intermittently for several years by prominent army officers and officials of the War Department. They have asserted that the leaders of certain peace societies, whose boards of directors included some of the ablest and most respected citizens of

⁴ *New Republic*, Vol. XXXVIII, p. 164.

⁵ *New Republic*, Vol. XXXVII, pp. 255-256.

the nation, were communist agents seeking to deprive the United States of means of defense in order that the Russian government might easily overthrow it by force.⁶ These three cases suffice for illustration of dishonest propaganda regarding sources of information and of ideas.

The second general end of dishonest propaganda is the creation of false impressions regarding any subject other than a source of information. Illustration is furnished by war-time efforts to spread such ideas as that Germans are by nature more brutal than Frenchmen, or that there is little difference between a socialist and an advocate of free love. This form of propaganda is frequently associated with dishonest propaganda regarding sources of information and of ideas. Whenever, for example, one spreads falsehood which might possibly recoil on him, he naturally wishes to protect himself by making his story appear to emanate from some one else, or at least to make it anonymous, as was done by the news bureau which has just been cited.

We see from the foregoing statements and illustrations that the line between honest and dishonest propaganda is exceedingly ill-defined, because it is frequently very difficult to say just what is the truth. We should have no difficulty, however, in noting that there is a world of difference in principle between honest education and preaching on the one hand, and dishonest propaganda on the other.

It is well to consider at this point the variety and importance of sources of dishonest propaganda. This consideration will be followed by a discussion of specific means of dishonest propaganda. The several parts of these phases of our study will to some degree overlap, but such duplication can not well be avoided in a discussion of this subject which is at all detailed.

⁶ *New Republic*, Vol. XXXIX, pp. 149-150; 184-185.

First among the sources of dishonest propaganda must be mentioned national governments. Soon after the outbreak of the World War, representatives of the British government carried on extensive concealed propaganda to induce the United States to enter the war on the side of the Allies, while agents of the German government were no less active in their subtle efforts to have our government preserve its attitude of neutrality.⁷ All countries carried on ingenious propaganda to strengthen the morale of their people, to make it both fearful and hopeful enough to fight doggedly, and at the same time to be prepared for possible reverses. After the United States entered the conflict, our own government developed a most active propaganda for the purpose of building up our morale and causing us to present a united front to the enemy.⁸ After 1917, the Bolshevik government maintained an elaborate propaganda, particularly in central Europe,⁹ while anti-Bolshevik leaders were even more active and far more successful in their counter-propaganda.

Evidence of amazing governmental dishonesty is afforded by recent disclosures of wholesale corruption of the French press. Our facts are drawn from the archives of the old régime in Russia. When the government, fearing the capture of Petrograd by the Germans, packed its papers in frantic haste and fled to Moscow, in 1918, its files were thrown into great confusion. When the officials of the Soviet government had had time to reorganize and examine these old records, significant parts of their contents were published to the western world by *L'Humanité*, a communist daily of Paris. The authenticity of the documents

⁷ *Harper's Magazine*, Vol. CXXXVI, pp. 521-531.

⁸ George Creel, *How We Advertised America* (Harper and Brothers, New York), 1920.

⁹ Edward Alsworth Ross, *The Russian Soviet Republic* (The Century Co., New York, 1923), Chaps. IV, IX, XXIII.

published has been admitted before a French court by Kakolsev, formerly president of the Russian ministerial council,¹⁰ and the papers have been accepted as unquestionably genuine by careful and scholarly American historians. It appears, according to the testimony of these documents, that between 1904 and 1906 Raffalovitch, secret representative in Paris of the Russian Minister of Finance, spent several million francs in bribing the French press. He corrupted the editors and financial writers of a number of the most important French newspapers, to say nothing of representatives of the leading press agencies. Payment was made to persuade them to refrain from taking an alarmist view of the state of Russian affairs, in order that the Russian government might successfully float a series of bond issues in France. "Since neither the Russian government nor the agent of the Minister of Finance could appear in the transaction," payments were made as though they came from a banking syndicate. Papers, persons, dates, and sums were stated in detail in the reports, and the files of the accused papers existed by which to check the changes in editorial policy specified in the published documents.¹¹

A leading Parisian daily, *Le Matin*, brought suit against *L'Humanité*. It admitted that the alleged payments were actually made, but declared that they were made for legitimate advertising. *Le Matin* obtained a verdict and was awarded damages, while fines were imposed upon the editor of *L'Humanité* and the author of the articles. This verdict was hardly an exoneration of *Le Matin*, however. It was rendered by the judge because, as he said, "These payments of money may have been for regular advertising services necessary in floating any loan.

¹⁰ *Deutsche Rundschau*, Vol. CXCIX, p. 225.

¹¹ *Living Age*, Vol. CCCXX, pp. 151-156.

Meanwhile, the design to injure *Le Matin* is certain."¹² One may still have grave doubts, nevertheless, regarding the purity of motives of the men concerned, particularly when he recalls that persons engaged in honest transactions are customarily required by governments to accept official checks, and not the checks of banking syndicates.

We almost forget even this betrayal of public trust, however, when we note more recent revelations from the Russian archives, in the face of which the journals and persons implicated have maintained a significant silence.¹³ There are some hundred and forty documents in the series with which we are here concerned. They reveal the fact that the men who determined the foreign policies of France and Russia were making plans for a general European war as early as 1909. In order to bring about this war it was necessary to create a favorable attitude in the minds of the French people. This entailed winning over large numbers of persons who were not at all sympathetic to the idea of a war for the regaining of Alsace-Lorraine and Constantinople. Isvolsky, Russian ambassador in Paris, wrote to the President of the Cabinet, December 2, 1912, how "Poincaré had been greatly disturbed by the campaign of the social radicals against his war plans. The latter say: we agree to no war which originates in the eastern chaos, and most assuredly not in a Serbian-Austrian conflict." Isvolsky pointed out to his government, however, that the plans could be carried out by "neutralizing those newspapers which are ill-disposed toward the bellicose policy of Poincaré, while we pay for this silence and prepare for war." Conferences with Premier Poincaré led to the conclusion that for this purpose not less than 3,000,000 francs would be needed. The Czar and the Russian Cabinet

¹² *Ibid.*, Vol. CCCXXI, pp. 1167-1168.

¹³ *Deutsche Rundschau*, Vol. CXCIX, pp. 1-13, 225-230.

agreed, and the sum requested by Isvolsky was granted. Over a half million francs were thereupon paid for the silence of fourteen different papers, while Poincaré prepared for war. The significance of these and of subsequent events can scarcely be overestimated, in view of the facts that without them the World War could hardly have taken place, and that even to-day most persons in America erroneously place the sole burden of war guilt on Germany.

Finally, we have the so-called "color books," which were published at the time of the World War by the governments of the belligerent nations. The government publishing each book alleged that the volume contained an accurate transcript of all of its diplomatic correspondence which was relevant to the immediate causes of the war and to the outbreak of hostilities. The readers of any one of these collections got the impression that the nation issuing it was quite guiltless, that its enemies were solely responsible for the war. In the light of what was discovered in the Russian archives, however, it became apparent that some, if not all, of these color books were grossly dishonest governmental propaganda. We now know, for example, that in the *Orange Book* the Russian government falsified fifty out of sixty documents given for the days immediately preceding the outbreak of the war.¹⁴

The almost insuperable difficulty of getting at the truth regarding important political matters while they are of current interest is well illustrated by the welter of propaganda and counter-propaganda regarding Russian affairs. The open-minded and painstaking Professor Ross cited specifically no less than forty-nine important stories regarding communist activities which he considered to be

¹⁴ G. von Romberg, *Falsifications of the Russian Orange Book* (The Viking Press, New York, 1923).

dishonest anti-Bolshevik propaganda. Then came Professor Pitirim Sorokin, a responsible Russian sociologist whose liberality is attested by the fact that he was three times imprisoned for his opinions by the Czarist government, and said, "I know that three-quarters of those stories that my friend Professor Ross called lies are true!" Finally, to make confusion worse confounded, Professor Jerome Davis, an observer who spent a number of years in Russian relief work at the time of the war, declared categorically that Professor Ross was right and Professor Sorokin was wrong!

Representatives of governments also carry on what appears to be dishonest propaganda against alleged enemies within the gates. At the close of the World War, for example, the Attorney-General of the United States alleged that the country was honey-combed with revolutionists and communists. The Intelligence Division of the Army found plots, where no plots existed, in conferences of social workers and other responsible organizations.¹⁵ Finally, to cap the climax, a committee of the New York State Legislature sponsored and published a four-volume report in which many of the most eminent and respected citizens of the republic were charged with disloyalty.¹⁶

Big business interests in this country have for years waged campaigns of misrepresentation. Investors have borne false witness against Mexico, to the end that our government might intervene in the affairs of our neighbor.¹⁷ Likewise coal operators, who want the public to view unions as gangs of meddling thugs, unionists who want to have all employers appear as heartless exploiters, cane

¹⁵ Chicago Commission on Race Relations, *The Negro in Chicago* (The University of Chicago Press, Chicago, 1922), pp. 574-575.

¹⁶ *Revolutionary Radicalism*, the so-called "Lusk Report."

¹⁷ Emile Joseph Dillon, *Mexico on the Verge* (George H. Doran Company, 1921), Chap. VI. See also *infra*, p. 352.

sugar interests that want a higher tariff, steel manufacturers who first want to prove that an eight-hour day is an economic impossibility and later want to illumine their own heads with an aureole because of establishing it, all maintain extensive bureaus and lobbies for the spread of information and misinformation.

A noteworthy illustration of business propaganda was furnished by the newspapers of Pittsburgh in their reporting of the steel strike of 1919. Under the auspices of the Interchurch World Movement their handling of the news was thoroughly investigated by a competent and experienced journalist. His study revealed the fact that in both news and editorial columns the seven Pittsburgh dailies consistently misrepresented the strike. They gave the impression that it was fomented by radicals, by German or Russian sympathizers or agents, and that it was disloyal and un-American to be on strike. They reported that the number of strikers was rapidly diminishing when it was in reality increasing. They insisted that the strikers had no serious grievances. Through exaggerations and fabrications they created the view that the strikers were guilty of very frequent and serious acts of illegal violence, but that the representatives of the Companies and of the law were always orderly and just. Every one of these statements was false, and every competent newspaper man must have known that they were false. Finally, they regularly took statements from the employers but not from the strikers, and they accepted "impressive and lucrative advertisements, without regard to the merits of the statements contained in them."¹⁸ In short, their policy was that of giving to the public in lieu of the news simply the employers' side of the case.

¹⁸ From *Public Opinion and the Steel Strike of 1919* (Copyright, 1921, by Harcourt, Brace and Company, New York), pp. 87-162.

One of the most insidious forms of dishonest propaganda is that carried on by the labor spy, or "under-cover man," who is employed by a detective agency. When an employer wishes special information regarding what his workers are thinking and planning, he may employ such an agency to find out for him. The spy then takes employment, just like any other worker, in the shop which is to be investigated. Through the detective agency he makes regular reports to the factory manager. The under-cover man carries on several kinds of dishonest propaganda. He falsely assumes the rôle of an ordinary worker. In order to allay unrest, he urges upon his fellow-employees the opinion that labor conditions are satisfactory. He advises against strikes and recommends that existing strikes be called off. In order to discredit strikers with the press and the public he may propose the commission of acts of violence, and he may commit them himself. Finally, he sometimes betrays the factory manager in whose supposed interests he is employed, by falsely notifying him that labor troubles are brewing, simply in order that his employer, the detective agency, may get a remunerative contract. All of these things are known to happen repeatedly in labor disputes, and even in times of industrial peace.¹⁹ They are mentioned here because, since labor spying is carried on to a very large extent in this country, they are often very influential in determining public opinion.

Religious groups and so-called religious groups occasionally carry on dishonest propaganda. The Ku Klux Klan is an organization whose members do this kind of thing, both orally and through support of publications whose stock in trade is the dissemination of misinformation.

It is deplorable that many clergymen are guilty of dis-

¹⁹ *Ibid.*, pp. 1-86. See also Sidney Howard and Robert Dunn, *The Labor Spy* (The Republic Publishing Company, New York, 1924).

honest propaganda, both by word and by action. Such are the men who, because they do not wish to give up their positions or to cause dissension, say things which they do not believe. Such are those who equivocate, who make mental reservations, who interpret words in other than their plain sense. Such were the elder clergymen mentioned by Arthur L. Weatherly in the article quoted in Chapter IV. Such, most assuredly, was the man who said, "When I repeat the creed I simply mean that I believe in the facts of the life of Jesus, whatever they may have been!" Such, even, is the man who simply preserves silence about his opinions, when they differ from those which he may properly be supposed to hold, as does the man who, though at heart a Unitarian, occupies the pastorate of an Evangelical church. Fundamentalists have made a real contribution to the thought of the day in their insistence upon the supreme importance of intellectual honesty; that a minister of religion, of all men, must not seem to be one thing and be another.

Most political parties and politicians are notoriously dishonest propagandists. Their platforms are usually designed to catch votes by the spread of misinformation. The literature which their national offices prepare for release to the press, their campaign handbooks, their posters, their circulars—all are usually of this sort. Such are also many of the speeches printed in the *Congressional Record* and scattered all over the home district, speeches never delivered on the floor of Congress but printed as though delivered through obtaining general consent to "extend remarks."

An important illustration of successful political propaganda is found in the rise of President Coolidge. There is little doubt that he was nominated for the vice-presidency in 1920 because of a popular belief that he handled the

Boston Police Strike of 1919 with masterly tact and vigor. The truth of the matter, however, is that in the weeks leading up to the strike, Governor Coolidge was vacillating in the extreme, and that on the day of the crisis the mayor of Boston was utterly unable to find him! These facts were known to reading people at the time, but they were speedily forgotten when, after the mayor had brought order out of chaos, Governor Coolidge reappeared and telegraphed to the president of the American Federation of Labor, "There is no right to strike against the public service by anybody, anywhere, any time."²⁰ From that time on, the clever propaganda of the Coolidge machine and later of the national Republican organization held persistently before the American people the picture of Calvin Coolidge as a strong, silent man of destiny. The success of this propaganda is a matter of history.

The foregoing classes and illustrations are but a beginning of the array which might be presented, but they suffice to indicate the variety and extent of dishonest propagandist agencies. We must now note the general methods of the dishonest propagandist.

One common method of dishonest propaganda is akin to that of the stage magician. The entertainer borrows a ring from some one in the audience and announces that he will destroy it and then restore it. Very ostentatiously he seems to put the ring in a flask of acid or grind it up in a mortar, accompanying his deliberate and palpable movements with a running fire of comment. All this display is, of course, designed to keep attention concentrated upon his action, and safely away from his assistant, who is very unobtrusively arranging apparatus and "planting" the ring where the magician will discover it. These facts are known

²⁰ *Searchlight on Congress*, Vol. X (September-October, 1924), p. 15.

to every keen-witted adult in the audience, and every one is striving to detect just how the magician performs the trick, but rarely indeed does any one observe how he does it. If these facts are true in cases where men are making every effort to observe accurately, much more are they true when a faker-propagandist, whose real nature is not perceived, is at work. Small wonder, then, that dishonest propagandists can lead men to ignore both important facts which should be noted in making decisions, and important acts of the propagandist himself. Consider, by way of example, the dishonest propaganda regarding the child labor amendment. Very ostentatiously and truly, did the propagandist point out that socialists generally favor the amendment, that the Russian government believes that the state has rights in children which are superior to those of parents, and that child labor is not as serious an evil as it was many years ago. Thus did he dishonestly divert public attention from the relevant and vastly more important facts of the widespread evils of child labor. Thus, also, have men of wealth stormed about the violence of strikers, thereby diverting public attention from the basic economic conditions which make men become strikers, and which impel them to violence, and from the way in which the capitalists were building up fortunes in industries which, they declared, could not afford to pay the workers a living wage.²¹

Very common modes of false propaganda are those of exaggeration and of minimizing. The employer, for example, overstates the violence of strikers and understates the lawless force used by private detectives, while the man on strike retorts with an exaggerated statement of disorder caused by private detectives and pushes aside as trifling or non-existent the violence of his fellows.

²¹ *World Tomorrow*, Vol. XI, p. 293.

A valuable illustration of the way in which exaggeration and lying develop a monstrous falsehood out of a tiny germ of truth is afforded by the following series of war-time statements which were made by European newspapers.

Cologne *Zeitung* (Germany):

When the fall of Antwerp got known the church bells were rung [meaning in Germany].

The *Matin* (Paris):

According to the Cologne "Zeitung," the clergy of Antwerp were compelled to ring the church bells when the fortress was taken.

The *Times* (London):

According to what "The *Matin*" has heard from Cologne, the Belgian priests who refused to ring the church bells when Antwerp was taken have been driven away from their places.

The *Corriere della Sera* (Milan, Italy):

According to what the "Times" has heard from Cologne via Paris, the unfortunate Belgian priests who refused to ring the church bells when Antwerp was taken have been sentenced to hard labor.

The *Matin* (Paris):

According to information to the "Corriere della Sera" from Cologne via London, it is confirmed that the barbaric conquerors of Antwerp punished the unfortunate Belgian priests for their heroic refusal to ring the church bells by hanging them as living clappers to the bells with their heads down.²²

A second and similar method of dishonest propaganda is that of giving undue attention to pleasant truths and of ignoring or slighting unpleasant facts. This was a very common practice in war-time, as we now know from confessions as well as from circumstantial evidence. We have learned, for example, from Pierrefeu, the officer who prepared the newspaper releases for the French General Headquarters, that, in their anxiety to prepare the people for

²² Florence Brewer Boeckel, *The Power of the Press for Peace and War* (National Council for Prevention of War, Washington, 1924), p. 12.

all eventualities and at the same time to preserve morale, members of the staff discussed the selection of the sentences, phrases, and even the single words in which to couch the reports which were given to the press. The useful truth was stressed, the harmful was ignored.²³

This form of dishonest propaganda is frequently found in what is called "juggling statistics," that is, preparing statistical statements on cases selected for the purpose of seeming to prove a point which in reality is not proved and which frequently can not be proved. In 1926, for example, a Minneapolis propagandist succeeded in getting some of his so-called findings regarding Negro crime into the report of the grand jury. Among other things he told of a Negro's alleged attempt to abduct a white woman and declared regarding it, "Never before have such crimes been as frequent in Minneapolis as they are now." Literally the statement was true, but it conveyed a very false impression. The whole truth was that this one case was the first of its kind ever reported in the city!

Third, propagandists may deliberately suppress the truth. Such was the case in the "Telegram of Ems." Again, we get from Pierrefeu illustrations of deceitful suppressions by French General Headquarters in the World War. Thus, for example, the newspapers were falsely led to believe that the army was surprised at Verdun, when it was in reality confidently awaiting the assault. The press, furthermore, was deceived by stress on the number of prisoners taken and by silence regarding other circumstances, into believing for the moment that Nivelle's disastrous attack was a great success. No wonder, then, that Pierrefeu wrote scornfully of the experienced historians who gravely and without criticism consulted the official

²³ Jean de Pierrefeu, *G. Q. G., Secteur I* (Paris, L'Edition française illustrée. 1920) Tome I, pp. 126-128.

archives and registers of General Headquarters and then wrote histories of the war in which "they applauded audacity, when there was only culpable temerity and scandalous ignorance."²⁴

It is not necessary to go to other countries and other times, however, for cases of suppression of the news. Cases involving the American press are frequently mentioned in liberal magazines.²⁵

The following illustration, therefore, is only one of several which might be given here. It seems that a state senator, boss of the dominant party in a northwestern state, owned an aviation field adjacent to a government field. It was advertised that the United States airship *Los Angeles*, which was on its way to the Northwest, would land at the senator's field, and that the public might enter the field and see the ship by paying an admission fee of one dollar. A copy man on a local paper—we can call it the *Argus*—thought that the senator's money-making project would interest the American people, even though the local papers said nothing of it. He therefore wired the *New York World*, asking if it wanted the story. The *World* wired back to its local correspondent, who happened to be one of the under editors of the *Argus*, to send five hundred words. He did so. The *World* printed the story on its first page, under a double column heading. Very promptly word was then sent out from Washington that the *Los Angeles* had engine trouble, and would not visit the Northwest! The last act in the drama was then played. The managers of the *Argus* learned who had queried the *World* and who had furnished the story to it. Both men were discharged.

²⁴ *Ibid.*, pp. 149-150.

²⁵ *Collier's*, Vol. XLVII (July 1, 1911), pp. 17-18 +; *Nation*, Vol. CX, pp. 709, 841; Vol. CXX, p. 17; Vol. CXXI, p. 529; Vol. CXXV, pp. 668-669; *New Republic*, Vol. XLVI, pp. 30-31.

Finally, propagandists may lie deliberately. Their falsifying may be negative, as when a candidate untruthfully denies, for his own sake or that of his party that he has ever had any business connections with a corporation which is in public disfavor.²⁶ Their falsifying may also be positive, consisting in asserting untruths of themselves or of their opponents, as when an attorney-general of the United States declared that he had positive knowledge that certain senators were in league with the Russian government to overthrow the government of the United States.²⁷

Further illustration of distortion of evidence by addition is found in the tidal wave of propagandist reports, sponsored, if not originated, by government officials, which in war-time swept over both Europe and America. These tales were equally prevalent on both sides of the trenches. We have already considered the German stories regarding guerillas and atrocities in Belgium. Equally startling and very circumstantial stories were circulated in allied countries, some of them over the signatures of men of high judicial standing, and were accepted without question by practically every one. Such were the stories of the crucified Canadian, of the cutting off of children's hands and women's breasts, of the factory in which Germans tried out fat from corpses, to be used in making munitions. All these tales, which were very effective propaganda for the allied governments, were later discovered to be either gross exaggerations or quite without foundation.²⁸

Yet another important allegation of deliberate forgery comes from the post-war period. We are told on the authority of the London *Daily Herald* that, as anti-soviet

²⁶ *Nation*, Vol. CXXVI, pp. 284, 554-555.

²⁷ *New Republic*, Vol. XXXVIII, p. 268.

²⁸ Philip Gibbs, *Now It Can Be Told* (Harper and Brothers, New York, 1920), p. 521.

propaganda, bogus editions of the Russian paper, *Pravda*, were printed in London and circulated in the Baltic countries with the aid of Scotland Yard.²⁹

The specific methods by which dishonest propaganda is carried on are both numerous and varied, as the following cases indicate. In spite of the number of cases cited, however, the list given is suggestive rather than exhaustive. In the first place, speeches frequently fall in the class of dishonest propaganda. Such are many addresses on political, religious, economic, and social topics, made in our own presence on occasions which we have no difficulty in recalling.

Again, dishonest propaganda is frequently carried on by personal pressure. Many a lobbyist makes it his business to convince his man, by fair means or foul, of the righteousness of his case. If he is not personally in a position to carry conviction, he learns from his carefully compiled card catalogue the political, religious, business, fraternal, and social connections of his victim, and puts on his trail some influential dupe or willing ally who will get the results desired.³⁰

In this connection we must note the influence of the press bureau and the press agent. Many years ago publicity bureaus were established by railroad officials, who wanted to create a public opinion favorable to their projects. Newspaper reporters accepted the information which was given them by these bureaus, and presently found that they could no longer get interviews or answers to questions from the high officers of great corporations. To-day inquiring reporters are almost always referred to

²⁹ *Nation*, Vol. CXII, p. 466. See also *Nation* (London), Vol. XXXVI, pp. 171-172 and *New Republic*, Vol. L, p. 180.

³⁰ E. B. Dunning, "How Things Are Done," *The Insurance Field*, Vol. XLVIII, No. 7A-3 (Aug. 24, 1923), p. 37.

the press agent, who offers them large quantities of printed and mimeographed matter, prepared, of course, in the interests of the corporation.³¹

At present such propaganda is carried on by organizations of every kind, religious, political, and philanthropic, as well as commercial. There is a free-lunch news counter in the National Press Club in Washington, bearing mimeographed copies of hand-out articles, bait for correspondents. These men are forced to use much of this material, for their editors would think a story to be news if other papers carried it and they had not sent it in. The magnitude of this system is suggested by the fact that in New York City, even before the war, there were about twelve hundred press agents,³² and that in a single day the Washington *Herald* once received enough material from this source to fill twenty-four newspaper pages.³³ It is true that much of what is offered is good news. Much is, however, simply propagandist material disguised as news, in order to get free advertising. Finally, much is simply cleverly camouflaged, special pleading. These facts make it necessary to note the work of the press agent in connection with a consideration of dishonest propaganda.

Governmental propagandist departments are carried on even more elaborately than are commercial ones. They are, of course, particularly active in war-time. Said Sir Gilbert Parker of the British propaganda in this country before we entered the World War:

I need hardly say that the scope of my department was very extensive and its activities widely ranged. Among the activities was a weekly report to the British Cabinet on the state of American opinion, and constant touch with the permanent correspondents of American newspapers in England. I also frequently ar-

³¹ *North American Review*, Vol. CCXIV, pp. 610-618.

³² *New Republic*, Vol. XXI, p. 144.

³³ *North American Review*, Vol. CCXIV, p. 615.

ranged for important public men in England to act for us by interviews in American newspapers. . . .

Among other things, we supplied three hundred and sixty newspapers in the smaller States of the United States with an English newspaper. . . . We established connection with the man in the street through cinema pictures of the Army and Navy, as well as through interviews, articles, pamphlets, etc.; and by letters in reply to individual American critics, which were printed in the chief newspaper of the State in which they lived, and were copied in newspapers of other and neighboring States. We advised and stimulated many people to write articles; we utilized the friendly services and assistance of confidential friends; we had reports from important Americans constantly, and established association, by personal correspondence, with influential and eminent people of every profession in the United States, beginning with university and college presidents, professors and scientific men, and running through all the ranges of the population. We asked our friends and correspondents to arrange for speeches, debates and lectures by American citizens. . . . We had our documents and literature sent to great numbers of public libraries, Y. M. C. A. societies, universities, colleges, historical societies, clubs, and newspapers.³⁴

After the United States entered the War, our own government turned its forces of propaganda upon us. Under the direction of the Chairman of the Committee on Public Information the foremost authors of the country prepared pamphlets presenting America's case. Seventy-five million copies of some thirty booklets were distributed in America, while other millions were scattered in every part of the world. Groups of soldiers from the armies of America and of the Allies toured the country. Mass meetings were arranged in the cities. Forty-five war conferences were conducted. Organized as the Four-Minute Men, sixty-five thousand volunteer speakers made over seven hundred and fifty thousand speeches in fifty-two hundred communities. Several hundred volunteer translators helped

³⁴ *Harper's Magazine*, Vol. CXXXVI, p. 522.

supply the foreign language press with prepared articles. The committee launched and guided twenty-three societies and leagues designed to carry America's war message to foreign-language groups. War exhibits were prepared for state fairs, and a series of interallied war expositions were set up for the largest cities. In Chicago alone two million people attended. The advertising forces of the country donated millions of dollars worth of advertising to the national service. Volunteer artists prepared over fourteen hundred posters and other forms of pictorial publicity. The Committee issued an official newspaper, with a daily circulation of one hundred thousand copies. It employed the ablest novelists and essayists to write syndicated articles for the press—city and country, labor and religious. It prepared motion-picture films on America's war aims, which were shown all over the world. It issued over two hundred thousand stereopticon slides. From offices in the capitals of every allied and neutral country on earth, it poured a flood of special articles, photographs, books, posters, display sheets, and the like, all designed to give a favorable picture of America and of her war purposes. In this stupendous effort more than one hundred and fifty thousand persons participated.³⁵ Of course much of all this propaganda was honest, but it was not "the truth, the whole truth, and nothing but the truth." Rather was it "the truth, in so far as it will help America win the war." As such it must be here mentioned in connection with dishonest propaganda.

When government officials interfere with the collection and transmission of news it is particularly difficult for the honest newspaper man to report the truth. Journalists are particularly handicapped by official controls of this sort in some foreign countries. The most common method of deal-

³⁵ Creel, *op. cit.*

ing with the reporter seems to be to put him under obligation to the government by giving him plenty of news, so that he will be well disposed toward its representatives. Another device is to decorate the correspondent. At least one honest reporter recognized the subtle influence which had been exercised upon him by favors received from the French government. He refused to go into the Ruhr in 1920 because he knew that if he went he would be in the predicament of having either to suppress the truth or to tell it with the certainty of mortally offending those who had befriended him.³⁶

If these methods are not effective, official pressure can be put upon the correspondent. In the autumn of 1926, for example, several American reporters were expelled from Roumania by the government. This was done, according to press dispatches, because the reporters were ignoring the wishes of the administration by sending home news regarding former Crown Prince Carol. Again, in the summer of 1925, George Seldes, special correspondent of the *Chicago Tribune*, was ordered out of Italy by the government. This expulsion occurred because, so it was alleged, Mr. Seldes had in his dispatches been unfair to the government. This seems to mean that he had presented the views of persons who were opposed to Premier Mussolini. We are told, moreover, that all correspondents in France and Italy have to be very careful to make their reporting acceptable to the government, otherwise they find that they are unable to get much official news and are subject to many handicaps in the pursuit of their work. The result is that the political news which comes to us from these countries, and all others where similar policies prevail, simply is not the unvarnished truth.³⁷

³⁶ *New Republic*, Vol. XXXVII, p. 253.

³⁷ *New Republic*, Vol. XLIII, p. 319.

The whole story is not yet told, however. We now know that even in peace time governments secretly feed propaganda to press agencies. This situation was admirably explained by an English correspondent:

The increasing interest in foreign affairs which the United States and the British Empire have inherited from the war is . . . exploited by the propagandists of foreign governments in a way which few of the editors of the papers of these countries realize.

Dependent as the majority of these newspapers are upon agencies for foreign news, they fail to inquire too closely into whether these agencies are free from the propaganda of foreign Governments. It is now known that all the news-agencies of the world, with a few unimportant exceptions, have working arrangements with agencies in the capitals whence news is sent. They buy the news-service of the foreign agency and supply news in return. The office of the foreign news-agency is their office, and although a competent correspondent is in charge of the office, his assistants, particularly during the night, are nationals of the country of origin. Now these foreign news-agencies, if they are not actually subsidized by the governments of their country, are so indebted to them for special facilities, or are so compliant, that they have become nothing but elaborate propaganda bureaus. On any question of international importance, such as the Silesian question, they obtain official views and send them out to the public as independent views. Official communiqués are telegraphed all over the world, in the cloak of news independently obtained and independently offered. The desire of the Government as to the handling of a particular issue is obeyed with remarkable faithfulness; and when the government wishes some news suppressed for its own benefit, suppression, without a murmur of protest, takes place.

In support of these charges the reporter, Mr. Herbert Bailey, cited his personal experiences.

I happened to discover that Krupp's was still making guns, a discovery that was admitted, but explained, by the brother of Prince von Bülow, who is the chief director of that concern. The German Government issued an angry denial of my story by wireless, and privately offered to correspondents in Berlin the explanation of von Bülow, which had not satisfied the British officers who

were in charge of the disarmament of Essen. The denial was sent to London and New York in the same words as those used by the German Government, and repeated at convenient intervals afterward. Most of the English provincial papers, some of the London journals, and hundreds of American, Canadian, Australian and South African papers printed the denial as if it was the independent investigation of a Berlin correspondent. German propaganda scored an easy victory.³⁸

It would be gratifying to have assurance that officials of the United States government never undertake to carry on dishonest propaganda by methods such as have just been described, but unfortunately evidence points in the other direction. One revelation on this matter is so important that it merits being told in detail.

It appears that about the middle of November, 1926, American newspapers all over the country printed articles charging that Mexico was "fomenting Bolshevism" in Nicaragua. The Washington heading and the striking similarities of these stories revealed their common origin. The account sent out by the Associated Press began thus:

The spectre of a Mexican-fostered Bolshevist hegemony intervening between the United States and the Panama Canal has thrust itself into American-Mexican relations, already strained.

It then stated, in vague terms, the anxiety of the new Nicaraguan President at the spread of "Mexican-inspired Bolshevism" in Nicaragua.

Presently the story behind the story was unearthed by a Washington correspondent, Paul Y. Anderson, and published in his paper, the St. Louis *Post-Dispatch*. The account was as follows:

Assistant Secretary of State R. E. Olds (formerly a law partner of Secretary of State Kellogg) sent for the representatives of

³⁸ *Living Age*, Vol. CCCXI, p. 550, quoting the *Westminster Gazette*, Sept. 27, 1921. See also *Nation*, Vol. CXXVI, pp. 194-196.

the three great press associations—the Associated Press, United Press and International News Service. He pledged them to secrecy and then revealed that the State Department felt “morally certain” that Mexico was circulating Bolshevist propaganda in Central America. “We feel,” he went on, “that this picture should be presented to the American people, and I desired to ask for your advice and coöperation toward that end.”

“It can very easily be done,” one of the correspondents replied. “Let the State Department issue a statement to this effect over the signature of the Secretary of State, and every newspaper in the country will publish it.”

Olds recoiled with an exclamation of apprehension.

“Oh! That is utterly impossible!” he said. “Surely you must realize why the department cannot afford to be in the position of directing such a serious statement against a government with which it is officially on friendly terms.”

Finally, it was suggested that perhaps such a story could be tied on to the statement that the State Department had decided to recognize the government of Adolfo Diaz in Nicaragua. In connection with that announcement the story appeared the following day, in somewhat modified form, as the background which explained the present relations between the United States and Mexico.³⁹

Perhaps the most disquieting feature of the whole affair is found, not in the particular story which was published, nor yet in the condition of our official relations with Mexico at the moment, but in the fact that in some quarters such reporting seems to be a matter of course. The Washington manager for the Associated Press said, when interviewed about the case, “We got the story in the usual course of news and we had no reason to doubt its accuracy.” “The implication is plain,” as the *New Republic* remarked: “Olds’s use of the press varied from the normal chiefly because of its ineptness and because, thanks to Mr. Anderson and the *Post-Dispatch*, he got found out.”

³⁹ *New Republic*, Vol. XLIX, pp. 97-98. See also pp. 203-204, 246-247; *Editor and Publisher*, Vol. LIX, No. 33 (Jan. 8, 1927), p. 10.

This episode brings us to the subject of news agencies in the United States. Most of the non-local news which American papers print is collected and transmitted by news agencies, of which the Associated Press is by far the most important. Each member paper furnishes to the district office of the association to which it belongs a copy of all news collected by its staff which it thinks is of more than local interest. The district office then sends to the papers which are members of the association, all items which the appropriate official in the district office considers should be transmitted to each. There are, then, two important filters through which news-agency dispatches must pass. In the first place, they go through the hands of the local paper whose reporter collects the news. If any paper sees fit to ignore or distort news regarding any event in its district, the service of the association is thereby affected. Now we have seen that most papers have their news colored, as the result of a number of influences such as unconscious class bias and the need of maintaining a contented constituency. Since this is the case, it is obvious that the news which the papers furnish news agencies will have the same defects as that which appears in their own columns.

Furthermore, the district officer who decides what news shall be distributed has extraordinary power. He can, if he will, interpolate, revise or suppress, and no one will be the wiser. Is this thing done? It is often alleged that it is frequently done, and vague charges have long been directed against specific agencies. For many years news agency officials have been rather sensitive because of these charges. Apparently, then, the officers of the Associated Press were delighted when, in 1913, a radical magazine, the *Masses*, published a hostile editorial and a cartoon which portrayed the general manager of the Associated Press as pouring from a bottle labeled "Poison" into a reservoir

marked, "Public Opinion." Suit was at once instituted against the editor and the cartoonist who were responsible, on the ground of criminal libel. The Associated Press was determined, so it seemed, once for all to put an end to such scandalous reports. The defendants retained as their attorney one of the most able lawyers in the United States. It is said that he personally knew much about the inside working of news agencies and that an amazing amount of evidence was collected for use by the defense, evidence which the Associated Press would under no circumstances care to have made public. Be that as it may, after the case had been widely discussed in newspapers and magazines, and after the charges against the Associated Press had been publicly buttressed by a mass of evidence which was very impressive,⁴⁰ the prosecution was quietly dropped.

We must note in passing the repeated declaration of officers of the Associated Press, that any seriously biased handling of the news would be impossible, because some of the member papers, which represent all political groups, would make prompt and effectual protest. This reply is not very convincing, however, inasmuch as fifteen large and conservative papers have, as bondholders of the Associated Press, forty votes in addition to the one which is possessed by every member paper. They thereby enjoy power to control the elections of the board of directors and the policies of the association.⁴¹

We should not conclude from the foregoing statements that American news agencies are habitually and deliberately dishonest. We should be very foolish not to recognize, however, that their dispatches must be viewed critically, exactly like any other news which our daily papers carry,

⁴⁰ Upton Sinclair, *The Brass Check* (The Author, Pasadena, 1920), Chaps. XXVII, XXVIII, XLII, LII, LVII, LVIII.

⁴¹ *Outlook*, Vol. CVII, p. 239.

and also that news agencies have on occasion been guilty of such grossly partisan conduct as amounts to dishonest propaganda. These facts are very serious because all important papers depend for much of their information upon press agencies, and it is this reporting, as was pointed out in "A Test of the News," which determines our attitudes on the supremely important matters of national and international policy, including peace and war.

In addition to both the privately maintained and the governmental press bureaus, there exist what may be called "publicity companies." These companies now undertake, at a set price per thousand names, to circularize representative citizens or special classes such as lawyers, physicians, clergymen, or college professors. You furnish the facts or fabrications, they will draft the literature along approved advertising lines, provide lists of names, and attend to the mailing. An interesting illustration of this method is found in the weekly letters, sent out for a consideration, by the so-called International Educational Society. The employer who wishes to carry on among his employees propaganda in favor of the existing industrial order can have them supplied with a series of weekly "Man to Man Talks," which Leonard Cline aptly described as "a collection of hokum, platitude and sentimentalism deftly calculated to appeal to a man's greed and fear and the psychological residua of days at mamma's knee." Of course the employee never knows that his boss pays the National Foundation, Inc., the real organization behind the nominal International Educational Society, a fee for each letter which is sent to his workers.⁴²

Dishonest propagandists frequently endeavor to use well-known and reputable persons or institutions as vehicles of their deceit, in order to make it carry a maximum

⁴² *New Republic*, Vol. XXXVIII, pp. 257-259.

of conviction. Here, for example, is a printed sheet, with a heading stating that it is "from" an influential and well-known religious organization. The document then avers that this organization has obtained from a director of a large industrial company permission to reprint a letter which he has received from the president of the company. Finally follows the president's letter regarding the labor policy of the company. The inside story of this document is that the director had originally obtained the information for the religious organization. The director then asked the secretary for permission to reprint the letter which he, the director, had himself received. This request being granted, the letter was reprinted at the expense of the leading stockholder of the company and circulated by a publicity agent. The document was therefore clearly misleading, for it created the false impression that the religious organization was sufficiently interested to print and circulate the letter, and it left the real promoters entirely out of the picture.

Posters are commonly used for dishonest propagandist purposes. Street-car cards and billboards flaunt their message in war-time, at election time, whenever the propagandist thinks this kind of advertising will be profitable.

Motion pictures are frequently used for this purpose. In war-time they were extensively used to impress Americans with the alleged peculiar cruelty and craft of Germans. In peace time they serve to further the interests of special groups and views. For example, a film version of *The Eternal City*, a novel published in 1901, modernized the story by making the hero a veteran of the World War and a leader of the Fascisti, who single-handed foiled the plotting of a treasonable labor leader! The American Motion Picture Corporation, whose leading directors are well-known enemies of organized labor, has prepared several series of educational films, among which are skillfully

interspersed other films designed to make the observer fearful of radicalism and inclined to work whole-heartedly and enthusiastically to maintain the existing economic order. The description of one of these films shows the method of operation.

"Social Sabotage" (5 reels). Smashing drama based on the announcement of Secretary of State Hughes that the Soviet is actively allied with the Communistic efforts to wreck our government. The story tells how such an enterprise might be put into effect, and centers about Daniel Flint, owner of a number of coal mines whose son and daughter are caught in the toils of Bolshevism. Distrustful of his son, the coal magnate on his death leaves the mines to his nephew, Roger Strong. Roger endeavors to deal fairly with the miners, but incited by the "Reds" under the leadership of the vengeful son, Russell Flint, they strike. Mob violence follows; Roger Strong is captured and faces a terrible death. Russell Flint, injured in the rioting, is the victim of his own villainy for he dies on the operating table, when in accordance with his revolutionary schedule, the town's electricity is cut off and the surgeons are unable to operate. Strong's fiancée, working as secretary to Russell Flint, sounds the warning which results in the thwarting of the nation-wide plans of the "Reds" to take over the railroads, industries and government. This gripping drama is not only intensely interesting as entertainment but is also a truthful exposition of a very real danger that is threatening our nation.⁴⁴

The radio can readily be used as an instrument of propaganda, the more menacing because we now find this super-agency of air communication in control of special interests which can make it a one-sided forum for the spread of dishonest propaganda. Evidence is not lacking that this control is being used both to facilitate the broadcasting of biased views and to prevent the broadcasting of contra-

⁴⁴ American Motion Picture Corporation, *A Personal Message to Clergymen, Educators and All Who Believe in the Educational Possibilities of the Motion Picture* (New York, n.d.), p. 16. See also *Nation*, Vol. CXI, pp. 262-263; Vol. CXII, p. 327.

dictory views. Two examples are of interest. A publishing house which was interested in the WLAG broadcasting station in Minneapolis made arrangements whereby the president of the Transportation Brotherhoods National Bank of that city was to broadcast an address on the subject, "Coöperative Banking." The broadcasting of the speech was once postponed on a flimsy excuse, and then the publishing house was informed that the speech could not be broadcast at all, because certain financial interests contributing to the maintenance of WLAG did not want the subject of coöperative banking placed before the people.⁴⁵

The second illustration is even more significant.

Some months ago the American Telephone and Telegraph Company broadcast some highly inaccurate remarks by William J. Burns on the American Civil Liberties Union. The Union wrote to the company requesting that Mr. Norman Hapgood be allowed to state its position. In response to the reply of the company Mr. Hapgood presented a synopsis of his address, setting forth the ideal of liberty in the past as expressed by Thomas Jefferson, Abraham Lincoln and others; showing the effect of the war on freedom of speech; and declaring his view that the suppression of efforts to change intellectual belief is not in line with liberty or the improvement of our civilization. On the refusal of the company to broadcast Mr. Hapgood, the Union inquired whether there was anything objectionable in Mr. Hapgood's address, whether the company would give an appointment at any time within a year to any prominent citizen to discuss the subject, "What Is Liberty?" and whether it would allow Mr. Burns to continue to use its facilities to attack such Americans as Jane Addams, Father John A. Ryan, and others who believe in constitutional rights. The company replied: "We do not see that any good can be accomplished by a discussion which the questions in your letter invite."⁴⁶

It is alleged by many persons that much of what is

⁴⁵ F. B. Andrews, open letter, n. d.

⁴⁶ *New Republic*, Vol. XXXVI, p. 113. See also *New Republic*, Vol. XLIX, p. 314; *Nation*, Vol. CXXIV, p. 545.

printed in some newspapers and magazines is dishonest propaganda. It was pointed out in Chapter XII, however, that the amount of such deliberate falsification has probably been greatly overestimated by suspicious liberals. There must remain, nevertheless, a considerable basis for the charge. An interesting illustration of such propaganda is found in many company papers which seek to make the worker immune to agitation. As Jean Atherton Flexner observed:

The technique is simple enough: comics, jokes, personal and social notes, especially those of a mildly teasing nature, cartoons, are the ingredients. . . . The subtlest form of propaganda is . . . that which numbs or destroys thought. At this the employee magazine really aims. In the entire range of employee journalism there is no intellectual appeal or stimulus to the employee. Even prejudice and passion are rare, because the aim is to divert rather than to misrepresent. The cheapness of the magazines' literary aims and achievements, the cult of slang, the driveling sentimentality of the "human interest stories," the volume of utterly trivial anecdotes and practical jokes, are all meant to stabilize the working force, because they tend to choke off whatever critical and rebellious faculties are faintly stirring in the American worker.⁴⁷

This same influence, it should be remarked in passing, is wielded by many papers whose editors probably do not have any other object in view than that of making as large profits as possible. In reality, as has been suggested elsewhere, they are nevertheless carrying on a propaganda of indifference to truly important matters.

There are many means by which dishonest propaganda can be spread through the newspapers. It is very commonly done through advertisements. The legal line between the true and the false in advertising is still very ill defined. Hence we find that, although advertisements of

⁴⁷ *New Republic*, Vol. XXXVIII, pp. 171-174.

cancer and consumption cures have disappeared from the papers, false insinuations and even lies direct thrust themselves upon us daily. *Our* tooth paste checks pyorrhea, *our* mouth wash cures halitosis, *our* yeast has wonderful medicinal properties, *our* plasters cure corns, *our* chewing gum aids digestion! A cool billion and a quarter dollars is spent annually in the United States for advertising, and there is not the slightest doubt that several hundred millions of them are spent for downright dishonest propaganda.

Advertisements may be camouflaged as news. Formerly, for example, corporations which wished to win some point with the public used to employ a publicity bureau to prepare material for them. This material was sent out to the newspapers and paid for at regular advertising rates, though it appeared in the papers as news.⁴⁸ Sometimes even the newspapers were duped by would-be propagandists. This was notably true of little country sheets, the inside pages of which are filled with so-called "boiler plate" matter. This consists of copy prepared by a press bureau and sold at low cost to the country newspapers. Sometimes the editor receives papers of news-sheet size, already printed on one side. Sometimes he receives paper molds, or "mats," from which he prepares his own stereotypes. In neither of these cases can the copy be changed by the editor. He has to use it as a whole or not at all. In this connection is significant the testimony of Mr. George A. Joslyn, president of the Western Newspaper Union, which was at the time of his report the chief producer of "boiler plate." He reported that his concern was frequently employed to send out as "stories" to papers which used its service, material from persons or corporations which wished to run advertisements in the guise of news. In one year,

⁴⁸ *La Follette's Magazine*. Vol. I (July 10, 1909), pp. 7-9 +.

for example, it received forty-two thousand dollars from the government of Canada for writing of the advantages of settling in our northern neighbor.⁴⁹

Nowadays the work is done less crudely. Payment is first made for obviously legitimate advertising. Thereafter it is not strange that great corporations frequently get favors from newspapers, in the form of publicity which is camouflaged as news or editorials. This fact was frankly admitted before the Federal Trade Commission in 1928, by a representative of the public-utilities companies of Iowa. He declared:

Without exception the public relations of those companies which advertise in the newspapers are better than those which do not. . . . A newspaper could hardly be expected to take a favorable attitude toward a company that refuses to advertise. . . . Since taking my present position, I have been responsible for an increase of 1,000 per cent in the volume of paid advertising given to the newspapers by the public-utility companies of Iowa.

Then followed an interesting dialogue between the examining counsel and the witness.

"Is there any doubt in your mind that this helped you to get your publicity matter printed in the news columns?"

"No."

"Of course, all this matter was propaganda?"

"Yes, it was."

"And there was absolutely nothing in it to inform the reader that it had been written by an employee of the utility companies?"

"No, but the newspapers knew who wrote it when they printed it."

"The sentiments contained in this material were sometimes reflected in the editorial columns of the papers which printed it?"

"Yes."

Said the special correspondent of the *Nation*, from whose report the foregoing story is taken:

⁴⁹ *Collier's*, Vol. LIII (June 6, 1914), p. 16.

The foregoing is a fair specimen. Indeed, it is mild compared with the testimony of some of the others. The power trust's propaganda agent in Ohio estimated that 20 per cent of the papers in that State regularly publish his "stuff" just as he sends it to them, and that a considerable number of them actually print it in the form of editorials.⁵⁰

The danger that the reader may mistake propaganda for news has been recognized by the legislatures of several states. Laws have been passed requiring that political advertisements shall be plainly marked as such, and in some cases going so far as to stipulate that the name of the advertiser and the price which he paid shall be given in the advertisement. As yet, however, there are a number of states in which readers are quite unprotected from this kind of dishonest propaganda. Obviously, moreover, even this protection is quite ineffective in the face of such methods as those of the utilities companies which have just been described.

In the second place, news and editorial writers may falsify and distort. A good illustration of this method of propaganda was given in an editorial of the *Los Angeles Times* in the spring of 1924. It dealt with an indictment of Senator Wheeler, an indictment which events presently showed to be totally unwarranted, and to be simply a means of seeking to discredit an aggressively honest public servant. Senator Wheeler's indictment, said the editorial,

comes like a blinding flash from the dark cloud that has been hovering for weeks over the national Capitol. The American people have been misled, deceived. . . . Now they are enlightened; but not until two good men have passed. Senator Wheeler's record as Federal district attorney in Montana during the war reminds one of that of Benedict Arnold. He lent aid and comfort to disloyalists, to the I. W. W. that sought to destroy our government through violent means, to drench the American Re-

⁵⁰ *Nation*, Vol. CXXVI, p. 610.

public in a bath of blood. . . . In his radical heart Senator Wheeler hated the Attorney-General who had dared to expose and defeat the machinations of the radicals. Preparing himself for his assault on representative government in the United States, Senator Wheeler went to Russia to study the methods of the Soviets . . . and he returned equipped with Soviet ammunition for his raid on the Attorney-General's office.⁵¹

Mere opinions may be offered as facts. Lippmann and Merz gave many illustrations of this practice in "A Test of the News," where they showed how guesses regarding future events in revolutionary Russia, such as the date of the fall of Petrograd and of the collapse of the Bolshevik régime, were published as substantial certainties.

Cartoons may be a vicious mode of unfair propaganda. They are relatively harmless when they simply poke fun, or play up party weaknesses, but too frequently they distort facts seriously. Here, for example, is a cartoon representing Uncle Sam as looking anxiously across the Atlantic at a very pompous John Bull. The latter holds on leash twelve bulldogs, each of which is seated on a British possession in America, such as the Bermudas, the Bahamas, and Jamaica. The dogs look menacingly at Uncle Sam, who is expostulating with John Bull, "If you are my dear friend, why do you keep these English bulldogs in my back yard?" The heading of the cartoon states the intended lesson, "Not so friendly on the face of it." The cartoonist, of course, took no account of the fact that a possession is not necessarily a menace to nearby countries, and that most of the "bulldogs" were established before Uncle Sam set up housekeeping in the neighborhood.

There are a number of ways in which news items may be so handled as to constitute dishonest propaganda. Sometimes little space may be given to important news,

⁵¹ *New Republic*, Vol. XXXVIII, p. 244; Vol. XLV, pp. 200-201; *Searchlight on Congress*, Vol. IX (May 31, 1924). pp. 11-13.

much space to trivial happenings. In war-time, for example, papers frequently played up the capture of a corporal's guard of Germans in Flanders, but reported casually in a very small item the surrender of thousands of Russians in Galicia. The trivial item was often given a place at the top of the front page, the important story appeared at the bottom of a column on page 2. The insignificant item had a scare headline, the big news had a little one.

Headings can be used to mislead regarding news items, the more effectively because the readers of the headlines exceed many-fold the readers of the articles which follow. Upton Sinclair tells of seeing a headline across the front of a paper:

WAR DECLARED

He bought the paper and then noted smaller type which made the heading read:

WAR MAY BE DECLARED SOON

This is, of course, a perfectly plain case of deliberate deceit.⁵²

In the reporting of the Steel Strike the Pittsburgh newspapers consistently fed their readers stories under such headings as the following:

GERMAN DESIGNS SUSPECTED
INSPIRED WALKOUT TO KEEP TRADE, STEEL
MAN ASSERTS
SENATORS FIND MILL WORKERS HERE
SATISFIED
REASONS FOR STRIKE UNKNOWN

⁵² *The Brass Check*, p. 255.

In view of this fact the following conclusion of the investigator seems irresistible:

Undiscriminating readers must have gained the impression that the men on strike in the steel industry were disloyal and un-American by virtue of entertaining some revolutionary economic theory . . . must have come to the conclusion that the district was being saved from a revolution by the efforts of the local authorities and the State Constabulary.⁵³

Frequently headlines state as fact what the article which follows shows to be simply a theory. Here is a caption, for example, which runs: "Woman Juror in Arbuckle Case for Conviction—Fails to Agree with 11 Colleagues Who Favor Freeing Film Comedian." If one takes the trouble to read the text of the article, however, he learns, "Corridor gossip said that one woman was holding out for conviction." Still another headline proclaims, "Pope says Chemical Warfare Is to Stay—Pleads for Recognition by British Government of Poison Gas Research." This startling announcement, for the reader naturally infers that "Pope" means the Roman Pontiff, heads an item stating that chemical warfare is favored by Sir William J. Pope, professor of chemistry at Cambridge University. These cases are not alleged to be examples of dishonest propaganda. They are given simply because they show the method by which such propaganda can be so carried on as to make false statements appear to be simply an error of the headline writer.

~~Choice of words may carry clever but dishonest propa-~~
ganda, as was pointed out in our discussion of epithets and slogans. It makes a very real difference whether a man be called an "organizer" or an "agitator." It matters greatly whether people are led to think that Russia made war on

⁵³ From *Public Opinion and the Steel Strike of 1919* (Copyright, 1921, by Harcourt, Brace and Company, New York), p. 95. See also *Nation*, Vol. CXII, p. 340; *New Republic*, Vol. LV, p. 228.

Germany, or whether they are told that the Czar and his ministers made war. It is worth noting that there is a vast difference between saying that Japan is becoming more militaristic and saying that a captain of infantry in the Japanese army has made some very foolish remarks. The method of propaganda by the slur has a special advantage. One can use it with relative impunity, whereas he who makes direct and unwarranted charges is likely to be sued for criminal libel. So, for example, it would be very indiscreet for a writer to allege that Mr. Justice Brandeis, Judge Mack and Felix Frankfurter had been guilty of disloyal conduct. One can with impunity make the same vicious charge by insinuation, however, as in the case of the man who, in 1920, in an article discussing alleged plottings of "the international Jew" slurringly referred to these three jurists as "gentlemen whose activities since Armistice Day would make a very interesting story."⁵⁴

The removal of a story from its context often serves the most harmful kind of dishonest propaganda. Such action is not always as easily discovered as was that of the atheist who undertook to prove by the Bible that there is no God, and then simply quoted the latter part of the passage, "The fool hath said in his heart, there is no God." An important illustration of propaganda by taking a story from its context was furnished by the newspaper which once described a short story by DuBois in such a way as to make it appear that the story was a brief for the intermarriage of whites and Negroes.⁵⁵ One who has read the whole story,

⁵⁴ *The International Jew, the World's Foremost Problem*, being a reprint of a series of articles appearing in the *Dearborn Independent* from May 22 to October 2, 1920 (The Dearborn Publishing Company, Dearborn, Michigan, 1921), Vol. I, p. 75. Some years after this work appeared, its sponsor, Mr. Henry Ford, publicly repudiated the study in its entirety.

⁵⁵ Chicago Commission on Race Relations, *The Negro in Chicago* (The University of Chicago Press, Chicago, 1922), pp. 538-539.

however, knows that such advocacy was far from the mind of the author. He was simply showing how, in time of disaster, persons tend to think only of their common humanity, rather than of race differences. A more important case of dishonest separation of story from context is furnished by a circular used by Republicans in the campaign of 1928. They quoted an article from the presumably unbiased *Encyclopædia Britannica*,⁵⁶ to show the corruption of Tammany Hall, and the danger of putting a member of the Tammany Society in the presidential chair. They quite failed, however, to quote the very relevant final sentence of the *Britannica* article, namely: "The power of the organization in the state and in the nation is due to its frequent combination with the Republican organization, which controls the state almost as completely as Tammany does the city."⁵⁷

Another method of propaganda is to make a dishonest attack on opponents. An old lawyer is said to have advised the youth who was reading law in his office, "If you have no case, abuse the plaintiff." This method was used in 1924 against senators who were investigating important cases of alleged dishonesty on the part of cabinet officers. Papers supporting the cabinet members made much of their editorial defense consist of strong and utterly unwarranted attacks on the honesty of the senators who were conducting the investigation.⁵⁸

More recently a public-utility representative, when asked how to work against a candidate who favored public ownership, advised: "My idea would be not to try reason, or logic, but to try to pin the Bolshevik idea on my opponent."⁵⁹ Apparently the advice has been favorably re-

⁵⁶ 11th ed., Vol. XXVI, p. 392.

⁵⁷ *Nation*, Vol. CXXVII, pp. 438-439.

⁵⁸ *New Republic*, Vol. XXXVIII, p. 243.

⁵⁹ *Nation*, Vol. CXXVI, p. 554.

ceived. At any rate, the last few years have seen a veritable epidemic of blacklists, in which reactionaries have unjustly pilloried eminent Americans and most useful social organizations as "pink," "red," and "Bolshevik."⁶⁰

Finally, papers can largely prevent causes which they oppose from being presented to the public, simply by ignoring or neglecting them. We have been told, for example, that

before and during the strike the Pittsburgh newspapers maintained an almost unbroken silence regarding the actual industrial grievances of the steel workers as to hours, pay, working conditions, and the lack of means to confer with employers concerning such matters, not to mention housing and social conditions.⁶¹

In view of all these screens which may be put between the reader and the facts, one can understand why an experienced journalist wittily observed that the baneful influence of the newspapers seems to be universal. It prevailed, said he, even in ancient Palestine, for, according to Luke, Zachaeus sought to see Jesus and "could not for the press."

Reference has been made to the biasing influence of stories and jokes. There is no doubt that these means of entertainment are often used as the vehicle of dishonest propaganda. Sometimes the propaganda is cleverly concealed in a story, as when the author of an insipid tale slips in an unobtrusive slur, such as, "like soap in the home of a Bolshevik! Some novelty!" Sometimes it may appear in a comic strip. At the time of the investigations made by the Senate in the spring of 1924, regarding which several illustrations of dishonest propaganda have already been cited, a jokesmith was inspired to prepare a strip of

⁶⁰ Elizabeth McCausland, *The Blue Menace*, published by the *Springfield Republican*. See also "A Study of Patriotic Propaganda," *Information Service* (Federal Council of Churches), Vol. VII, No. 18 (May 5, 1928).

⁶¹ From *Public Opinion and the Steel Strike of 1919* (Copyright, 1921, by Harcourt, Brace and Company, New York), p. 111.

pictures under the heading, "Congressional Investigations Have Started Something." One picture, for example, is entitled, "The Directors of a Big Corporation Spend Six Months and \$12,431 Investigating the Loss of a Lead Pencil." The stupid-looking officials who appear in the picture are made to remark, "Gentlemen, I have prepared a 10,000-word statement on the missing pencil," "This case involves the loss of four cents and we must find the culprit," and "I move we vote ourselves extra salaries of \$100 a week for this special work." It would be unwarranted to say that this particular strip was prepared as dishonest propaganda, but there is justification for saying that it had the effect of such propaganda and that comic strips of that kind are no doubt prepared as propaganda.

Photographs are often employed for dubious propaganda. They have been used, for example, to make vivid the happy state of the child who is privileged to work in the cotton mills of the South,⁶² the disloyal radicalism of educators, and social workers in war-time, and the peculiar and unnecessary cruelty of military enemies.

Such perversion was forcefully illustrated by an editorial writer in the *Freeman*, who told of a case in which the same picture was used almost simultaneously by the propaganda departments of two warring nations. Said he:

In the late war many of the barbarities recorded against the enemy in the official propaganda of either side, were essentially the same. We recall one striking photograph of a shipwreck, with forlorn passengers fleeing from the sinking liner in small boats or struggling in the sea, which appeared almost at the same time as an official Government photograph in both British and German publications. In the British press it purported to represent a German submarine atrocity; in the German papers it portrayed an example of frightfulness on the part of the British navy. In

⁶² Cf. Thomas Robinson Dawley, Jr., *The Child That Toileth Not* (Gracia Publishing Company, New York, 1912).

reproducing both photographs with their hate-engendering captions, the *London Daily Herald* also dug up for its readers the original of the picture, which had appeared widely in the British and Continental press back in 1909 and represented an ordinary shipwreck of those peaceful days. The *Herald's* exposure of the hoax called forth little or no comment from the respectable press in either England or Germany.⁶³

Another even more serious case of dishonest use of photographs in war-time was reported with apparent pride by the official responsible for it, Brigadier General Charteris, Chief of Intelligence of the British Army at the time of the World War. At a public dinner in New York City he told how the Allies were worried by the attitude of China, where sentiment seemed to favor Germany. One day there came to his desk a mass of material taken from German prisoners and German dead. In it were two pictures, one showing a train taking dead horses to the rear, where the fat and other substances needed for fertilizer and munitions were to be extracted from the "cadavers"; the other showing a train taking dead Germans to the rear for burial. Knowing how the Chinese revere their dead, General Charteris had the caption telling of "cadavers" being sent back to the fat factory transferred to the picture showing the German dead, and had the photograph sent to a Chinese newspaper in Shanghai. This was the origin of the story of the German corpse factory.⁶⁴

It is only fair to add that General Charteris presently denied his story. The conflicting statements made in the denial were of such a nature, however, as to leave no doubt in the minds of most readers that the original confession was true.⁶⁵

Finally, we have one case close at home, which well illus-

⁶³ *Freeman*, Vol. V, p. 389.

⁶⁴ *New York Times*, Oct. 20, 1925, p. 10, col. 3.

⁶⁵ *Nation*, Vol. CXXI, pp. 592-503.

trates how such graphic falsehoods may tend to precipitate war.

Liberty magazine, which in April advocated editorially the conquest of Mexico, on October 23 [1926] illustrated an atrocity tale with a photograph of a hanging bearing the caption, "Peons Selected at Random and Hung after a Church Raid." Three weeks later a writer to the *New York Times* stated that he had had a copy of this photograph in his possession for more than a year and that it was in reality a picture of the hanging of some bandits that took place more than two years ago. The *Times* letter attributes no malice to the *Liberty* correspondent but prejudice and haste.⁶⁶

Books, including novels, are often used for dishonest propaganda, though it is of course very difficult to convict any particular volume of being a dishonest product. It may nevertheless be noted that books range all the way from *The Passing of the Great Race*, which few persons consider deliberately dishonest, however misinformed or prejudiced the author may have been, to the notably dishonest "color books," to which reference has already been made.

Such propaganda, however influential it may be, is nevertheless amateurish when compared with the methods by which American public-utility companies work through the public schools. In 1928, for example, the Federal Trade Commission found that these companies were maintaining a huge machine for the dissemination of misinformation. The Illinois Committee on Public Utility Information served as a model for work in many states. A writer in the *Nation* reported of this committee:

It began with a thorough study of textbooks dealing with public-utility questions. It circularized local companies, urging them to set to work on local school boards and through personal friendships

⁶⁶ *News Bulletin*, National Council for Prevention of War, Vol. V, No. 12, Dec. 1, 1926, pp. 1-2.

to have "bad" books removed. This, it reported, "is a very slow process but has to be gone through with." Then it sought to prevent the publication of more "bad" books. It urged its members to work through "personal friends in publishing houses." It wrote letters to the universities and discovered just which professors were writing on the subject. It offered these budding authors the honeyed bait of "reliable statistics" together with aid in getting their books marketed. "We have located," the industrious committee reported, "practically every textbook and also have found the textbooks in course of preparation, and have been able to be of considerable assistance to the writers of these books in providing them with reliable data." Finally, as a result of persistent effort, B. J. Mullaney, of the Illinois Committee, was able to report that it had got to the point where "*635 Illinois high schools, more than three-quarters of the total number, use specially prepared utility-industries literature in the classrooms.*"⁶⁷

Finally, mention must be made of a kind of dishonest propaganda *de luxe*, the following illustration of which was furnished by a Washington newspaper correspondent, Gilson Gardner.

Sometimes propaganda is elaborately and expensively staged. Following the recent adjournment of Congress, the public will remember that a junket was organized under the auspices of the Navy Department to carry important members of Congress and newspaper men, at a nominal cost, on a cruise among the West Indies, through the Panama Canal and up the Pacific to San Diego. These public and semi-public men were entertained with a free hand at public expense. There was plenty to eat and to drink. Every evening in the main saloon there were talks and moving pictures to inform the "traveling guests" on matters near to the heart of the Navy Department, such as the reason why Congress ought to appropriate so many millions or billions for battleships, submarines, or aeroplanes. Incidentally, the party learned of the magnificent work done by the navy through the marine corps in the Islands of Haiti and Santo Domingo and the reign of bloody chaos which had prevailed before they came and how they had inaugurated an era of peace and safety razors of

⁶⁷ *Nation*, Vol. CXXVI, p. 554.

American make with a prospect of an ever-increasing market. Of course there was no mention of the National City Bank or the great incorporated sugar interests, or the latter's relations to the political forces which move our marines.

A glance at the newspaper copy written by any of the men who participated in this trip will serve as a good illustration of the effectiveness of this kind of propaganda.⁶⁸

In the light of what has been said regarding dishonest propaganda it is apparent that we must be on our guard if we are not to be deceived by it. The remainder of this chapter is accordingly devoted to a discussion of methods of self-protection against such propaganda.

The most general and basic thing which we can do to ward off dishonest propaganda is to remember, at all times and as vividly as possible, the nature of the sources of news. We must bear in mind all the limitations on oral and written testimony, as discussed in the foregoing chapters. This means, among other things, that we must be on the alert for signs of bias. We must remember how limited are our powers of observation. We must recall the numerous causes, both intentional and unintentional, of false oral testimony. We must recollect the many filters and refracting agencies through which news passes on its way to us, and how greatly its nature may be modified as it passes through any one of them. The best that we can do, and much more than most persons do regarding controversial matters, especially in times when the spirit of the crowd is strong, is to remember that every assertion may be a partisan statement in a controversial case, to strive to determine its veracity by getting back to sources, and in the absence of proof, to suspend judgment.

We shall be greatly helped in our efforts to attain this desirable attitude of the proverbial man from Missouri if

⁶⁸ *World Tomorrow*, Vol. VI, p. 170.

we read regularly some newspaper or magazine which can fairly be classed as propagandist for the truth, or which comes reasonably near to deserving this name. Appreciation of the contrast between what such sources offer as facts, and what is furnished by most publications goes far toward freeing the intelligent person of any naïve credulity which he may possess.

In addition to maintaining this general attitude of alert suspicion, there are a number of specific things which we can do to protect ourselves. First, we can often ascertain without difficulty, by means which have already been discussed, the general bias of the person who is our source of information. If it should appear that our witness has an important bias which might affect his testimony on the subject at hand, we must of course make appropriate allowance for it by discounting all of his assertions. Those which we do accept, moreover, will have to be verified with care. If, on the other hand, our witness seems to possess a prevailing judicial attitude, an apparent desire to get at the truth rather than to prove a point, he is probably a safe witness, though not necessarily a perfectly satisfactory one.

In many cases we shall not know the character and prejudices of the speakers and writers whose assertions we wish to appraise, and it will be difficult, if not impossible, to ascertain them in the time at our disposal. In such cases we can go far toward compensating for our ignorance by noting carefully the tone both of the remarks, speeches, or articles which we wish to appraise, and of other assertions or publications of the person under consideration. Is the tone dogmatic or cocksure? Such a tone is not characteristic of the most careful and reliable speakers and writers. It is therefore best to discount testimony from such a source, and to an extent varying directly with the degree of dogmatism manifested. Is the speech or article reserved in

tone and scope of assertion? Such is the manner of reliable witnesses and writers. It is strong evidence, though not proof, of absence of a dishonest propagandist spirit.

It is even easier than in the case of persons to learn the biases of newspapers and periodicals. We can, in the first place, obtain light on this subject by noting the names and reputations of the editors and the most important regular contributors. Responsible persons are not, as a rule, associated with irresponsible publications.

Second, we can learn the standing of the source in the eyes of competent critics, such as those of librarians and teachers of English, the social sciences, and journalism who have given some attention to the subject. In making this test it is necessary to obtain the independent judgments of a number of persons, to guard against being misled by the opinions of those who are themselves unqualified to give us the information we desire. Even after this test has been made, however, we must remember that although a newspaper or periodical is accepted as accurate or responsible by even the wisest of its readers, it by no means follows that such is the case. An illustration will serve to make this point clear.

A certain liberal weekly magazine seeks to maintain a reputation for caring more to advance the truth than to support any particular view which its editors may hold. Recently one of its regular contributors, a first-rate historian of national repute, was asked to review a biography. He did so. The editors then refused to publish the review, simply on the ground that the review was unfavorable, while the author of the biography was one of the group intimately associated with the magazine! At least ninety-nine out of one hundred readers will never hear of this episode, however, and will continue to believe that the magazine is propagandist for the truth, though in reality

it appears to be dangerously close to propagandist for a particular point of view.

Another means of getting light on probable biases of newspapers and periodicals lies in identifying their owners and learning their business connections. These sources of information normally reflect the ideals of their owners. The names of the owners can be learned from the sworn statements of ownership which the Federal government now requires all newspapers and periodicals to publish semi-annually, and which are made about the first of April and the first of October. Some of the connections of these men can of course be learned from *Who's Who in America*, though it must be remembered that for practical reasons men of affairs frequently conceal their business associations.

Finally, we must note carefully the specific content of particular stories in which we may be interested. About them we must ask such questions as the following: ⁶⁹

1. *Does this story seem to be written with any ulterior purpose?*
2. *Does the story give an apparently biased account?*
3. *Is the situation or event credible, as being in accordance with common or at least reasonably probable actions of individuals, associations or governments?*
4. *Did the speaker or author himself see what he relates? If not, exactly who did see it?*

Said Lippmann, regarding this point:

It is often very illuminating . . . to ask yourself how you got at the facts on which you base your opinion. Who actually saw, heard, felt, counted, named the thing, about which you have an opinion? Was it the man who told you, or the man who told him, or some one still further removed? And how much was he permitted to see? When he informs you that France thinks this and that, what part of France did he watch? How was he

⁶⁹ Adapted from Hayes Baker-Crothers and Ruth Hudnut, *Problems of Citizenship* (Henry Holt and Company, New York, 1924), p. 57.

able to watch it? Where was he when he watched it? What Frenchmen was he permitted to talk to, what newspapers did he read, and where did they learn what they say? You can ask yourself these questions, but you can rarely answer them. They will remind you, however, of the distance which often separates your public opinion from the event with which it deals. And the reminder is itself a protection.⁷⁰

In particular, this question will serve to put us on our guard against statements from such ambiguous sources as "responsible officials," "high authorities," "a person close to the administration," "a dispatch from Copenhagen," and the like, for here it is plainly impossible to distinguish fact from rumor and dishonest propaganda.

5. *What proofs does the witness give of the truth of his assertion?*

This question is not always pertinent, but it must be asked in case of generalizations ("The Japanese are getting ready to seize the Philippines"), predictions ("The adoption of the child labor amendment will tend to destroy the American home"), and assertions for which the witness can not vouch personally ("Senator Wheeler is working in coöperation with the Bolsheviks"). In the absence of proofs which will bear the most rigid scientific tests, such generalizations, predictions, and assertions must be appraised simply as manifestations of bias, as irresponsible generalizations or as dishonest propaganda.

In order to make satisfactorily the tests required by these five questions, we shall have to do several things. First, we must shun the practice of headline reading, which we have seen is frequently misleading. This does not mean that we should read every article whose headline we

⁷⁰ Walter Lippmann, *Public Opinion* (Copyright, 1922, by The Macmillan Company, New York; George Allen and Unwin, Ltd., London. Reprinted by permission), p. 45.

note, it does mean that we should accept nothing on the testimony of headlines only. If a headline suggests facts sufficiently important for us to form an opinion about them, we ought in self-defense to read the article which follows.

Second, we should read carefully material on subjects which seem to us to be important, if we think it is material which is to be taken at all seriously. This action is necessary to avoid being deceived by that trick of dishonest propagandists which consists in so writing an article that a hasty reading will give a false impression, though more careful reading will show that, though misleading, every statement made is literally true.

Third, we should hear or read accounts of the subject of our study from sources whose views we may expect to clash: those of Hoover and Thomas, or of periodicals published by a trade union and a manufacturers' association, for example. For kindred reasons we must also take similar precautions when we listen to a speaker whom we suspect to be a dishonest propagandist.

As we leave this subject of safeguards against dishonest propaganda we may well note several aids which depend upon social rather than individual action. First is the passage and enforcement of appropriate legislation. We have long enjoyed the protection of laws against slander and libel. More recently we have been benefited by the so-called Pure Food and Drugs Law, which has largely eliminated direct falsehoods regarding patent medicines, prepared foods, and the like. Such legislation may well be extended to cover the advertising of such other commodities as textiles and furniture. Excellent as such laws are, however, their application is limited to direct statements. They cannot touch the clever suggestions which are to-day the basis of much dishonest propaganda. Against this we must use another defense.

Investigating bureaus are used in a number of fields. They are maintained, for example, to determine the worthiness of organizations that appeal to the public for financial aid and the merits of candidates for public office, as revealed by their records. Such bureaus often perform great public service. They are, however, always subject to one grave weakness. That is that the non-partisan bureau may become partisan, and thus itself become an agency of dishonest propaganda.

Yet another protection against dishonest propaganda is the maintenance of newspapers and periodicals which represent many diverse views and which therefore serve as checks on each other. It is easy for a paper to falsify successfully when it has no competitors that are impatient to discover and expose weak places in their rivals' armor. It is difficult for it to falsify successfully when it has a company of rivals—reactionary, conservative, middle-of-the-road, progressive, radical, and ultra-radical—all eager to catch it in a falsehood and to proclaim that falsehood to the public.

Fourth, and essential to the third safeguard, is the maintenance of freedom of speech, of the press, and of assemblage. Whenever these are denied, as in time of war or of revolution, that healthy criticism which is the best antidote for dishonest propaganda is of course rendered impossible.⁷¹

In this connection it is well to note the history of the Los Angeles *Municipal News*, a unique and valuable experiment in the field of journalism. This paper was published weekly by the city of Los Angeles and mailed to all voters who subscribed at the price of one cent a copy. Expenses were defrayed by advertising and by a municipal appropriation. Most of the news carried by the paper pertained

⁷¹ Cf. Zecariah Chafee, *Freedom of Speech* (Harcourt, Brace and Howe, New York, 1920).

to municipal affairs. Much was composed of accounts of the activities of the several departments of government. The rest consisted chiefly of statements by members of the city government regarding public business and policies on which they wished to comment. The mayor and each member of the city council were given the use of about a half column in each issue. Each political party which polled as much as three per cent of the vote of the city in any regular election was also given the free use of a column. Finally, when any municipal question was actually under discussion, and before the official policy of the city had been determined, the *Municipal News* gave special publicity to the conflicting views on the subject. It appointed and paid two special writers on each subject. Each writer consulted the advocates of one view on the subject and then wrote a column article presenting that view. The two articles were then published side by side. These features of the *Municipal News* guaranteed that diverse and important views on public questions would be given to the voters. It is therefore deplorable that after a few years, for reasons which are not altogether clear, the voters of Los Angeles decided to discontinue the publication of the paper.⁷²

Fifth is the financial support by the public of those papers and periodicals which are propagandist for the truth. Such support is to them the very breath of life. Until they receive generous backing from this quarter they can not afford to establish the costly news-collecting service which should be substituted for the cheap but undesirable system of accepting material offered by press bureaus.⁷³

Finally, there is the possibility of introducing in our

⁷² *Independent*, Vol. LXX, Part 2, pp. 1342-1344; *National Municipal Review*, Vol. I, pp. 441-443.

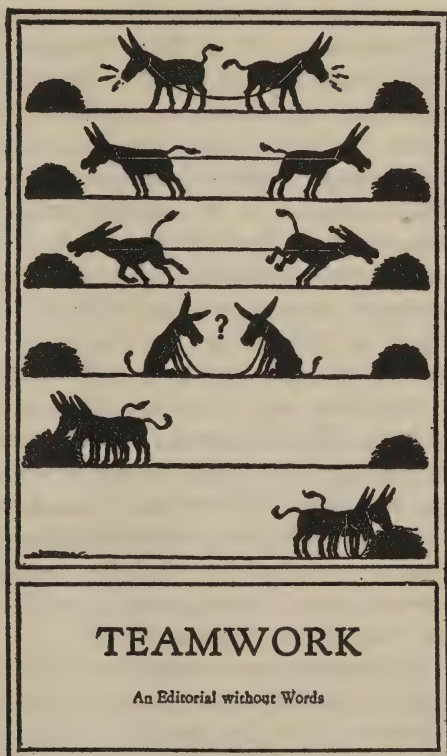
⁷³ Walter Lippmann, *Public Opinion*, Part VII.

public schools definite instruction regarding the sources and forms of dishonest propaganda. The schools reach our young folk while their habits of thought are still being formed. They afford, therefore, a practical place in which to develop those habits of scientific thinking which are an invaluable protection against falsehood.

Our next and last chapter tells in detail of the processes by which, to the satisfaction of all parties, scientific thinking may be applied in a coöperative technique for solving social problems.

CHAPTER XIV

A COÖPERATIVE TECHNIQUE FOR SOLVING SOCIAL PROBLEMS



*Designed by Alvin E. Dodd. Courtesy of
The American Journal of Nursing.*

In the foregoing chapters we have been warned of the difficulties which beset the student of social problems, and

we have been told of some of the more important ways of avoiding or overcoming each of the pitfalls which have been discussed. We have yet to consider, however, a method by which all that we have thus far learned can be applied to the solution of social problems. To the examination of such a method the present chapter is devoted.

At the outset of our inquiry it must be noted that there is for our purposes one outstanding difference between social and nonsocial problems. It is this: Frequently a skilled individual can, single-handed, solve a nonsocial problem, be it in engineering, agriculture, or medicine. But no one person, however skilled he may be, can solve a social problem all by himself, precisely because the solution of a social problem is found in the coming to agreement of groups of men who have been holding conflicting positions. The solution of the so-called Mexican problem, for example, can not be attained by the president of the United States, by Congress, or even by all of the people of the United States. It can be reached only by a meeting of the minds of leading American *and* Mexican officials, or of the American *and* the Mexican people. While, therefore, one man may be the agent by which an agreement is brought about, he can not solve the problem. The agreeing must be done for themselves by the persons or groups concerned. It follows then, as we shall see, that the means by which social adjustments are at present usually sought are in fact unavailing to bring about the desired ends.

We shall now examine some methods which are popularly supposed to be means of solving social problems. First, it is often assumed that the method of force can settle international conflicts. Thus, for example, it used to be argued that the forcible partition of Poland had solved the problem of the relations of Prussia, Austria, and Russia to that turbulent nation. Experience showed, however, that

the problem persisted after the partition, though in a different form. It had not been solved, nor has it yet been solved. We recognize the futility of force, of course, in this case and in the cases of Ireland, Alsace-Lorraine, and Czechoslovakia, for hindsight is easy. Most persons do not appear to appreciate the fact, however, in the case, let us say, of Germany, of India, or of China. We still hear it said that force is necessary and efficient in the relations of the Western World to China. Examination of the facts, however, shows that in reality force has both created and aggravated the problem. At times it may have seemed to solve it, but in truth it has simply suppressed overt and conspicuous manifestation of Chinese discontent. Rather is it true, therefore, that to the degree that the Powers concede to China the right of self-determination and cease to use force against her people and her government will the problem of the Flowery Kingdom approach solution. And what is true of China is equally true of Germany and of India, for what is true of force as applied to Poland is universally true.

In the second place, the law is a method of force commonly used within a country as a supposed method of solving social problems. When this is done a government often rides roughshod over a minority and complacently assumes that a problem is solved. This was the case, for example, when governments maintained established churches and punished all who refused to conform. But non-conformists many men remained, "in spite of dungeon, fire and sword." The problem of religious adjustment was solved only when the coercive laws were repealed and religious freedom was granted to all. Coercive and suppressive law failed also to solve the problems of the status of national minorities, such as the Czechs in Austria; of political radicals, such as the Russian socialists under the

Romanoffs; of economic dissenters, like trade-unionists in eighteenth-century Britain.

Legal force is usually futile in solving social problems, even when the law is favored by majority sentiment. The coercive method of bringing about conformity, indeed, usually makes the solution of the problem more difficult than it was in the first place. This is because of the dispute-created inclination to treat the opponent as an enemy, with whom there can be no compromise, rather than as an associate with whom one is to coöperate in the task of solving a common problem.

A third alleged method of solving social problems is the mode of debate and decision. Two college teams argue the question, for example, "Resolved; that the protective tariff should be abandoned by the United States." Each side seeks to prove a specific proposition. It asserts that its case is flawless and that the position of its opponents is indefensible. Presently the verdict of the judges is rendered in favor of one side. The problem has not been solved, however. The decision changes few opinions. The antagonists and most members of their audience remain in possession of their original views.

What is true of this kind of case is equally true when, after argument of counsel, a court makes a decision. The decision of the Supreme Court, for example, in which the Federal Child Labor Law of 1918 was held to be unconstitutional, simply changed the battleground from the courtroom to the halls of Congress and of the state legislatures.

Compromise is a fourth method of solving problems which is frequently commended. This method does indeed possess an important merit lacked by the others which we have discussed. It represents an effort, not to coerce the opponent or to ignore his wishes, but to come to agreement with him. It is therefore to be preferred to the other

methods. Nevertheless it lacks one essential to the resolution of conflict. It does not bring satisfaction to both sides. Mine operators and workers, for example, bargain and haggle over a wage scale. A strike looms in the background. Finally, because neither side wishes a cessation of work, an adjustment is made. Every one knows, however, that it is at best only a temporary arrangement, because both sides are discontented. At the end, therefore, of two or three years, new negotiations will have to be made, and always with the possibility of failure and industrial warfare.

We are now ready to consider the technique of the discussion method, which is the process here recommended for the solution of social problems. It is a technique based primarily on John Dewey's analysis of a complete act of thought (*How We Think*, Chapter VI). This technique has been admirably developed in recent years by several teachers and social workers, and has proved so valuable that it may be said to have revolutionized the method used in conferences of such organizations as the Young Men's Christian Association, the Young Women's Christian Association, and the National Country Life Association. It is essentially the technique used by the two wise donkeys, portrayed in the "Editorial without Words," which stands at the head of the chapter. We shall analyze it by examining the Pattern Discussion Outline which is given on the following pages and by applying it, as our analysis is developed, to a specific situation.

There have assembled, we may assume, several persons who are keenly interested in some problem. Their views on the problem are quite dissimilar, but upon one thing they are agreed. That is, that if it is humanly possible they are going to find a solution which will be really acceptable to all. They will therefore approach the problem

PATTERN DISCUSSION OUTLINE

(Adapted and used by permission of A. J. Gregg and the Association Press)

I. QUESTIONS TO DESCRIBE THE SITUATION

1. Why is there interest in the situation?
2. What individuals and groups are concerned in the situation?
3. What is at stake for each person or group involved?
4. What appears to be most important in the desires of each person concerned?
5. What does each group or person feel will happen if wrong decisions are made?

II. QUESTIONS TO BRING OUT UNDERLYING PROBLEMS
OR ISSUES

6. What reasons does each person or group concerned give to establish his views?
7. Why do some persons say or do this, why do others say or do that?
8. What seem to be the real, as opposed to the nominal or alleged desires of each person or group?
9. What is the effect of each view in action?
10. Are the reasons given by each person sound, as tested by the experience of competent judges?
11. Are these reasons sound as tested by the highest ethical standards?

III. "LIVE OPTIONS," QUESTIONS WHICH WILL BRING OUT
POSSIBLE WAYS OF MEETING THE SITUATION

12. What are the possible ways of meeting the situation? (What do some persons do? What do others do? What do different persons recommend?)
13. Which way seems best to recognize the truth in the situation? (The discussion should continue until the full meanings of the proposed solutions are understood and their worth analyzed.)

IV. "WAYS AND MEANS," QUESTIONS WHICH WILL HELP
TO MAKE THE SOLUTION DETERMINED UPON EFFECTIVE

14. Out of the previous discussion a solution should emerge for trial.
15. What changes in present practice would the chosen solution cause?

16. How can the chosen solution be made effective?
17. How can those concerned be helped to see its reasonableness?

in a coöperative and not in a pugnacious spirit, and they will, of course, avoid the use of words and phrases which are offensive and which might give rise to the fight attitude.

The first step in this technique is to discover just what the problem at hand really is. To this end the group members ask themselves and each other such questions as those listed in the Pattern Discussion Outline under the heading "Questions to describe the situation." Possibly such questions may be asked and answered specifically, as in a class or a conference group. It is quite possible, however, that the several conferees may simply make statements covering the points which may not be clear to the other participants in the discussion. If they do ask these particular questions they will probably not need to ask all of them, since to some extent they overlap.

Let us now examine, by way of illustration, the development of discussion in the conferences of 1907, in which representatives of the United States and of Japan considered the problem of the Japanese migrant in California. The official Japanese view of the problem may be expressed in the following words: "Japanese residents in California complain that they are subjected to discriminations at the hands of both the law and the people. They are therefore seriously handicapped in their efforts to make a living and to give their children a good start in life. We hope that these discriminations will be removed and that no new ones, such as exclusion of Japanese migrants, will be added. We feel that otherwise the handicaps which our people suffer in California will seriously injure or even destroy the friendship which the people of Japan have long felt toward the people of the United States."

The view of white California was substantially this: "The Japanese in California work for lower wages than do natives. They are also willing to pay higher rents for agricultural land than natives are. Their competition with native labor is therefore very severe. We want to get rid of this Japanese competition. We fear that otherwise white laborers will be gradually replaced and California will slowly become a Japanese country."

Finally, the view of the representatives of the Federal government was something like this: "The government of the United States has an important stake in this matter. The welfare of the citizens of one of our states is involved. So, too, are our relations with a great and friendly country. These are both important. If either the white people of California or the people of Japan are profoundly dissatisfied by our handling of the problem, the situation will be made worse. We shall then have increased friction in California, in our diplomatic relations with Japan, or in both."

Out of these statements, then, there seemed to emerge three distinct problems. First, the Japanese were concerned by the fact that they were subject to special discriminations. Second, white Californians were worried lest the civilization of their state shall become predominantly Japanese. Third, the United States government was desirous of satisfying each party without offending the other. These facts were known to all parties before the conference began.

The second step in the discussion method of solving social problems is to get at the real, as opposed to the apparent issues. It often happens that the things which opponents say that they want are not really what they want at all. They may declare that they want those things, however, because it seems to them that they must demand and obtain them as a means of obtaining what they really want. Sometimes, too, they demand them

because they seem to be the things which they desire, and they have never examined their own minds sufficiently to know precisely what it is that they really want. These demanded things are, however, rarely necessary for attaining the desired end. It is usually possible for all parties to get all, or substantially all, of what they really want, once they get the issues analyzed and ask only for what they really want, instead of demanding something much more comprehensive.

This process of separating the real from the apparent issues is well exemplified by a further consideration of our illustrative case. When the Japanese-American conference group had assembled, the attention of the conferees naturally centered on points listed in the Pattern Discussion Outline under the heading, "Questions to bring out underlying problems or issues." These inquiries probe deeper into the subject and reveal basic causes and attitudes, and the significance of each. In the case at hand statements made were no doubt somewhat as follows:

Japanese Officials.—"The right of the Japanese nation to concern itself with the welfare of its citizens can hardly be denied, in view of the fact that all other nations, including the American, show concern for their citizens in foreign lands. We acknowledge the right of America to regulate immigration, but the Japanese government protests against discriminations against its citizens. Its ground is that these discriminations are unjust. The Japanese are physically, mentally, and morally the peers of other peoples. The Japanese in California are not criminal, stupid, or lazy. It is true that they do not assimilate readily with the native whites, but neither do migrants from any other country who are subject to repression and discrimination. In short, the trouble is not with the Japanese but with those who are hostile to them. If the Japanese in Cali-

ifornia were treated as are European migrants they would raise their standards of living and would assimilate fairly readily. No valid ground, therefore, can be given for discriminations which are directed solely against our people. Japan is humiliated to find that it is looked upon as an inferior nation, whose citizens are not treated as are those of other civilized countries. This is a matter of great importance to us, for we are a proud people and do not admit that we are the inferiors of any people on earth."

Spokesmen of White California.—"It may be true that Japanese will assimilate if they are given a chance, but we do not want them in California, even if they do assimilate. We do not want to amalgamate with them, and to admit to our midst large numbers of persons, whom we will not permit to intermarry with us, is to create a caste system which is intolerable in a democratic country.

"The right of a nation to preserve itself and its culture is one of the attributes of sovereignty, and the right of a nation to regulate the privileges of aliens within its borders is a right recognized in international law. We Californians have a legal right to discriminate against Japanese laborers. Discrimination is also our moral right, for it is our only way of discouraging Japanese from coming to our state. Because local discrimination is not very effective, however, we feel justified, further, in urging the Federal government to exclude Japanese laborers from the United States."

Representatives of the Federal Government.—"Our conciliatory attitude of desiring to please both California and Japan in this matter is founded on experience. History shows that a central government can not afford to flout the wishes of the people of any large district regarding a matter which they consider paramount. The problem may all be the result of prejudice, but prejudice is a very real thing which can not be eliminated simply by identifying

it. The unsympathetic and domineering central government is likely to find that it has nullification, civil war, or even disunion with which to cope. Besides, in the light of America's difficult problem of adjusting the relations of whites and Negroes, California is right in wishing to avert the development of another interracial problem within her borders.

"We recognize, on the other hand, that it is only good sense for a nation to cultivate friendly relations with other countries. To offend wantonly is to invite discriminatory tariffs, economic boycotts, and even war. It is therefore desirable to show some regard for the wishes of the people of Japan, and to go a long way to conciliate them. Possibly no grave dangers may threaten us, even though Japan is offended. In any case, however, it is only courteous to avoid wounding the feelings of our friends."

These further statements reveal yet more clearly just what the issues were. It now appears that to the Japanese the problem was chiefly one of national pride, rather than of discriminations. To the white Californian it was one of preserving a white California, rather than one of discriminatory legislation. To the Federal government it was one of preserving a white California and of placating California, while at the same time not wounding the pride of the Japanese.

Now to return to the points of the Pattern Discussion Outline. Answers to Questions 6, 7, and 8 have been furnished by the foregoing statements. The statement of the representative of the Federal government also furnished, it so happens, an answer to Question 9, "What is the effect of each view in action?" Question 10 asks, "Are the reasons given by each person sound, as tested by the experience of competent judges?" To this the following answer must be given. The most competent judges, unprejudiced

specialists in the social sciences, would no doubt challenge the statement of the Japanese, "No valid ground, therefore, can be given for discriminations which are directed solely against one people." They would say that the virtual certainty of averting serious race conflict is valid ground for some kinds of discrimination. To the assertion of the spokesman of white California, that "to discriminate against Japanese laborers is our moral right, for it is our only way of preventing them from coming to our state," they would no doubt reply that there are other ways of preventing Japanese from going to California. They would also criticize the views expressed by both Japanese and white Californians on grounds which would give answer to Question 11, "Are these reasons sound, as tested by the highest ethical standards?" They would assert that both sides failed to conform to the highest ethical standards. The Japanese view fell short in that it did not envisage the interests of white California. It failed to recognize that discriminations might be justified, even though directed against a single people, provided those discriminations were necessary to protect a civilization from an alien culture. The view of the white Californians also fell below the highest ethical standards, in that it proposed a needlessly offensive way of attaining a perfectly proper end. The view of the Federal government, finally, was acceptable in that it sought to attain the legitimate ends desired by both parties, and in a way acceptable to both.

As the third major step toward the solution of a problem, a discussion group turns to the examination of the points listed under the heading called "Live Options," and considers the "Questions which will bring out possible ways of meeting the situation" (Questions 12 and 13). In the case of the Japanese problem, outstanding recommendations

which had been made by various interests were the following:

1. Pass a Japanese Exclusion Act.
2. Pass a law excluding from the United States all persons not eligible to citizenship.
3. Maintain the *status quo*, that is, permit Japanese to enter the United States on the same terms as other immigrants.
4. Provide by law for a quota plan which will reduce Japanese immigration to a minimum.
5. Persuade the Japanese government to keep Japanese laborers at home.
6. Remove from the statute books of California the discriminatory legislation which is offensive to the Japanese government.
7. Maintain the discriminatory legislation and add more drastic discriminatory laws.

These diverse proposals had to be carefully examined, to see what results each would have if it were put into effect. The conferees had ever to bear in mind that any true solution of the problem would satisfy both parties. That is, it would protect the pride of the Japanese and would at the same time protect white California from the competition of large numbers of Japanese laborers.

Study showed that Proposals 3, 4, and 6 would not satisfy the white people of California. Project 4 would have been quite acceptable to Japan, but Californians feared that to permit even a small stream of Japanese immigration might establish a very dangerous precedent. They thought in terms of the Arab and the camel's nose. Proposals 1, 2, and 7, on the other hand, would not satisfy the Japanese. Projects 3 and 5, however, taken together would make an acceptable combination. These projects were in fact finally embodied in the so-called Gentlemen's Agreement, which governed Japanese-American practices regarding immigration from 1907 to 1924, and which furnished an answer to Question 13 in the Pattern Discussion Outline. Specif-

ically, under the Gentlemen's Agreement the Japanese government undertook to cease to give passports to laborers wishing to go to the United States, and the United States undertook to continue its policy of admitting all Japanese immigrants who were armed with proper passports.

The plan obviously called for changes from current practice (Question 15), primarily in that the Japanese government ceased to issue passports to all laborers who applied for them. The arrangement also involved appropriate action by the representatives of both countries to persuade their home governments to accept the plan (Question 16). This really involved action only on the part of the Japanese, as the United States had been represented in the conference by such officials as the President and the Secretary of State, who had power to act in their own right. The United States government attempted, however, to make the plan yet more effective by striving to persuade California to pass no further anti-Japanese legislation. The reasonableness of the plan was made apparent by showing the two contending groups the force of the arguments advanced by each side, and the harmful conditions to which any alternative plans would lead (Question 17).

It must be acknowledged that the Gentlemen's Agreement was never thoroughly satisfactory to extremists in California. These men wished the United States to adopt a "strong policy," that is, to exercise its legal right of exclusion as a means of showing the Japanese that America would stand for no "outside interference" in what was purely a domestic matter. The Gentlemen's Agreement may nevertheless be considered a solution of the problem of Japanese immigration, in that it satisfied both sides to a high degree, and came far closer to adjusting the conflict-creating difficulties than did any alternative project.

It is true that in 1924 the Gentlemen's Agreement was repudiated by the United States, but this fact furnishes very meager evidence that the plan was not a good one. On the contrary, indeed, the facts that the Immigration Act of 1924 was passed by Congress in a fit of temper, that it was passed in spite of the protests of the Secretary of State and the President, that Japanese-American relations were thereby somewhat strained, and that California gained nothing but a paper victory by the new law, are all evidence of the superiority of the Gentlemen's Agreement.

The establishment of this Agreement is not a unique illustration of the use of this coöperative technique for solving social problems. It has been applied to many social maladjustments with highly gratifying results. Whenever conflict groups have frankly and whole-heartedly tried to find real issues beneath the apparent sources of their difficulties, and whenever they have tried to see how much they could concede to each other without at the same time giving up something that was truly vital to their interests, they have greatly reduced and in some cases have completely eliminated conflict. Use of the method in 1922 brought real peace to Ireland for the first time since the days of King John. It ended the "war after the war" by bringing about the Treaties of Locarno. It has made a beginning on the problem of whites and Negroes in America, and has made notable contributions to the problems of the relations of capital and labor. When used by men and women who understand how to avoid the obstacles to effective thinking which have been analyzed in this volume, this method of good will may yet be the clew to the solution, not of one, but of all of our social problems.

QUESTIONS AND PROBLEMS

TO THE STUDENT

The chief purpose of this book is to help you to think scientifically regarding social problems. It is a truism, however, that no man's thinking can be better than his information. It is therefore essential that you master certain basic facts. The quiz questions given in this section of the book are designed to help you to this end. If you can answer them adequately, you will understand the essential facts regarding the process of scientific thinking.

Most students find that one of the best helps to study is the preparation of an outline or summary. The first question on each chapter therefore asks you to do this. If you will write out brief answers to the other questions, also, you will later find reviewing to be a very simple matter.

It is not planned that much time should be spent on these quiz questions in class.

The exercises and problems are designed to give opportunity to apply your knowledge of the fact material which is presented. These also should be studied carefully, preferably with note-making, so that you will be ready to discuss them in class.

CHAPTER I

THE PROBLEM OF SCIENTIFIC THINKING

Quiz Questions

1. Prepare an outline or summary of the chapter.
2. State four different views regarding the problem of thinking for society.

Exercises and Problems

1. What evidence can you give that the argument and conclusion of the editorial "Floored" are as true to-day as they were in 1915?

2. Add to the list of views regarding the problem of thinking for society any other views which you think deserve mention.

CHAPTER II

CAUSES OF PREJUDICE

Quiz Questions

1. Prepare an outline or summary of the chapter.
2. Explain the two phases of prejudgment suggested by the terms "bias" and "prejudice."
3. When is bias useful? Illustrate.
4. Explain and illustrate the necessity of prejudgment.
5. Define the terms "stimulus," "response," "conditioned stimulus," and "conditioned response."
6. Give an example of learned and of unlearned stimuli.
7. Explain and illustrate the process of conditioning a stimulus.
8. Describe the mode of conditioning a response and give an example.
9. Tell how Albert came to fear the white rat.
10. Why did Albert come to dislike the rabbit, but not his blocks?
11. State the Law of Transfer. Illustrate.
12. Set forth, with illustrations, the five Laws of Learning.
13. "Learning takes place according to the interplay of several forces." Explain and illustrate.
14. Give a case of an unlearned emotion being transferred from one object to another.
15. Cite a case of a learned emotion being transferred, and set forth the process.
16. Show how a prejudice may be the result of deliberate imitation.
17. Explain the significance to the child of such a rime as

Republican rats, take off your hats,
And give three cheers for the Democrats!

18. Why does the child imitate now his parents, now his teacher, and now his playmates?

19. On what grounds can a parent object to his child reading nickel novels and comic supplements, when the youngster knows that he is reading fiction?

20. Why does the public school not do more to counteract prejudices?

21. How can a singer be affected by repeated participation in group singing of religious songs, the words of which he does not believe?

22. Explain the process of rationalizing.

23. Set forth the origin and the influence of the five kinds of bias which have been described.

24. Describe and illustrate the relation to prejudice of uncritical habits of thought.

25. Show how excitement facilitates the spread of prejudice.

26. Explain how lack of contact is related to prejudice.

27. Show why increase of knowledge sometimes reduces prejudice, while in other cases it increases it.

28. Tell why the sympathy developed out of increased uniformity of experience is more likely to reduce prejudice than is simple increase of knowledge. Illustrate.

29. What is the relation to prejudice of the fact that the day is but twenty-four hours long?

30. Set forth briefly five reasons why men do not set about getting rid of their prejudices.

Exercises and Problems

1. Are we born disliking persons of other races? Evidence.

2. To what extent do we choose our political party?

3. All service ranks the same with God—
With God, whose puppets, best or worst,
Are we: there is no last nor first.

(a) Explain carefully what Browning probably meant by this statement in "Pippa Passes."

(b) What scientific standing does this view have at the present time?

4. If the behavioristic view of causation is true, what is there left but to resign ourselves to fate?

5. Illustrate from your own observation how substitution of a learned for an unlearned stimulus may lead to prejudice.

6. Explain by an illustration how interference with habit may cause prejudice.

7. Report a case from your own observation in which prejudice was apparently the incidental end-product of imitation for the sake of displaying knowledge, skill, courage, or the like.

8. Is there more justification for a censorship of motion pictures than of books? Reasons.

9. Give examples of "bromides."

10. Enumerate cases of prejudiced epithets.

11. List recent or current slogans which reveal prejudice.

12. Cite current events which show how men rationalize in (a) politics; (b) religion; (c) business relations; (d) international relations.

13. Illustrate, preferably from the habits of thought of educated persons, the bias of (a) self-interest; (b) conservatism; (c) radicalism; (d) self-esteem; (e) conventionality.

14. Is it a good plan to exclude from a public library a magazine such as the *Nation* on account of its radicalism?

15. A prominent university professor once told a class, "Every one ought to have a few strong prejudices." What do you suppose that he meant? State your reasons for accepting or rejecting his view.

16. Why is it that educators seldom use such a means of teaching scientific thinking as the discussion method?

17. Why are many persons fearful of open forums? Are their fears justified?

18. "This afternoon when I went to take a swim at the Y I found one of those lousy Japs in the pool. Every drop of my blood began to boil. I could no more go in than I could fly. If he hadn't been made of brass, my look would have killed him."

Without expressing approval or disapproval of this attitude, try as far as possible to account for it, in the following manner:

(a) List as many factors as you can which may have contributed to make the attitude inevitable under the given conditions.

(b) Relate, if you can, a specific incident which shows the working of each factor listed.

(c) If you can not give such an incident, tell what you can of the factor in the light of your general knowledge.

(d) Show how the attitude expressed must have developed according to the Laws of Learning.

CHAPTER III

CURES AND PREVENTIVES OF PREJUDICE

Quiz Questions

1. Prepare an outline or summary of the chapter.
2. What can one do to get an emotionally toned drive in favor of scientific thinking?

3. "When . . . we find ourselves entertaining an opinion about the basis of which there is a quality of feeling which tells us that to inquire into it would be absurd, obviously unnecessary, unprofitable, undesirable, bad form or wicked, we may know that that opinion is a non-rational one, and probably, therefore, founded upon inadequate evidence."

Explain why this is so.

4. What has consideration of the circumstances under which one acquired an opinion to do with escape from prejudice? Illustrate.

5. Compare the merits of the debating society, the discussion group, the lecture class, and the forum in dealing with prejudice.

6. What is the apparent effect of disuse upon prejudice?

7. Of what avail is talking about their biases to children? To adults?

8. What is the result of making fun of a prejudice to the person who possesses it?

9. How does thrusting the object of a prejudice upon a person affect the prejudice?

10. What is the effect of having the prejudiced associate with the unprejudiced?

11. Explain the process by which Peter was unconditioned.

12. How do you explain the change in attitude of Captain G.?

13. Under what conditions can novel-reading help free one from bias?

14. When is bias reduced by reading scientific literature which favors the view which is disliked?

15. Under what circumstances can attending meetings at which a disliked view is presented lead to reduction of prejudice?

16. Show how the Law of Transfer is applied in preventing prejudice.

17. Tell the way in which each of the Laws of Learning is to be used in a program of prejudice prevention.

18. Under what conditions does the study of geography reduce bias?

19. Show how such contacts as those promoted by the Junior Red Cross and the use of Esperanto are emotionally broadening.

20. When does the study of history make and when does it reduce bias?

21. Why does the habit of practical helpfulness function in the program against bias?

22. Enumerate some measures for preventing bias which must be taken by the group.

Exercises and Problems

1. Give illustrations of the fact that most customs have adequate causes in the environment.

2. Cite several cases which show that "if other people do unreasonable and 'queer' things, so do we; and sometimes we do queerer things than they!"

3. Make a list of important things taught, said or done in school when you were a child which you would not wish to have repeated in a school attended by your child, lest bias be created in him. In each case state the reasons for your objection.

4. Make a list of things not taught or done in school when you were a child which you would wish to have done in the school attended by your children, as preventives of bias. In each case state the reasons for your desire.

5. Little Marjean, aged six, is very fond of the comic supplement to the newspapers. Her parents do not like to have her look at it, because they do not wish her to find amusement in the horseplay and vulgarity presented in it. What do you advise?

6. Walking across the playground, a settlement worker found a little Italian boy crying bitterly. She asked him what was the matter. "Hit by Polish boy," the little man repeated several times. Inquiry among the bystanders revealed that the offender was not Polish at all. Turning again to her little friend, she said, "You mean, hit by a big, naughty boy?" But he would not have it thus and went on repeating that he had been hit by a Polish boy.

This struck the worker as so curious that she made inquiries about the little fellow's family. She learned that it lived in the same house with a Polish family, and that the Italian mother, by constantly quarreling with her Polish neighbor, had put into the heads of her children the notion that "Polish" and "bad" were synonymous terms.

—Bruno Lasker, ed., *And Who Is My Neighbor?* pp. 2-3.

If you were the settlement worker, what could you do to set the little Italian boy right in his attitude toward Polish boys?

7. What might be done to uncondition a group of college men who have no desire to change their attitude and who have a strong bias against Roman Catholics?

8. (a) Write a paragraph of between one and two hundred words, stating an antipathy for some group—national, political, occupational, racial, religious or other—against which there is strong bias in your community. *Write in the first person, as though the bias were your own.* Give free rein to feeling, and do not attempt to defend logically the position stated.

(b) Write a paragraph of between one and two hundred words, describing the manifestations of the bias.

(c) Write a paragraph of between one and two hundred words, describing the results of the bias.

(d) State to what extent the community antipathy is based on reason and to what extent on other grounds, and explain, as far as possible, the origin of the bias. (Use to guide your thought, if you wish, the points mentioned in the text, but do not follow them mechanically.)

(e) Rewrite Paragraph *a*, eliminating from the indictment all charges which you think the community could not prove before the Supreme Court of the United States to be true of the group as a whole.

(f) In between one and two hundred words write as strong a defense as you can of the group under consideration.

(g) State in not less than three hundred words what can be done, either by way of cure or prevention, to save the young people of the community from the bias. (Use to guide your thought, if you wish, the points mentioned in the text, especially the Laws of Learning, but do not follow them slavishly.)

CHAPTER IV

DEDUCTIVE LOGIC

Quiz Questions

1. Prepare an outline or summary of the chapter.

2. Explain in your own words and illustrate originally the following logical terms:

(a) categorical proposition	(j) major term
(b) hypothetical proposition	(k) minor term
(c) disjunctive proposition	(l) middle term
(d) universal affirmative proposition	(m) major premise
(e) particular negative proposition	(n) minor premise
(f) term	(o) obversion
(g) subject	(p) conversion
(h) predicate	(q) syllogism
(i) premise	(r) hypothetical syllogism
	(s) disjunctive syllogism
	(t) enthymeme

Exercises and Problems

1. Give major and minor premises from which the following conclusions will be logically drawn:

- (a) Women should be admitted to all professions on the same terms as men.
- (b) Colleges should use intelligence tests for Freshmen.
- (c) The United States should join the League of Nations.

2. Analyze carefully the reasoning in "The Real Issue."

- (a) Draw up two or three syllogisms which seem to you fairly to epitomize Mr. Weatherly's reasoning.
- (b) In the case of each syllogism tell
 - (1) whether or not you accept the premises and
 - (2) whether or not the conclusion is logically drawn from the premises.

3. The logic in some of the following exercises is bad, in others it is good. Discover when it is valid and when it is false. If a statement is true, put it into syllogistic form. If it is false, name and explain the fallacy which it embodies.

- 1. I can't vote for Smith because I can't vote for a Catholic.
- 2. No moron is a great artist, for all artists are gifted men.
- 3. Do Democrats still cling to their half-baked ideas about Philippine independence?
- 4. Not all Baptists are Fundamentalists, for some of them are Modernists.
- 5. Why are labor leaders more selfish than capitalists?
- 6. As a human being, even the assassin is entitled to the protection of the law.
- 7. Do you want Minneapolis to have a dictator? Vote against the city manager plan.
- 8. Some dogs are yellow dogs. My dog is a yellow dog. Therefore, my dog is *some* dog.

9. The trouble with the theory of evolution is that it does not account for the origin of life.
10. All the cranks in the country prate about freedom of speech, so if Karl Fuller is arguing about freedom of speech you can just put him down as a crank.
11. Man is either descended from monkeys or he is the direct product of divine creation. God or gorilla, take your choice.
12. Some supporters of the strikers are not old line trade unionists, because they are not individualists.
13. You Catholics are always complaining about the Ku Klux Klan, but what about the Spanish Inquisition?
14. No Maori is a Mongolian, for Mongolians are not New Zealanders and Maoris are New Zealanders.
15. Women ought not to run for the office of sheriff, because it is unfeminine to run for such an office.
16. All progressives favor recognition of the government of Russia. Lloyd George is a Liberal, so he favors recognition.
17. Some social workers are menaces to the community, because they are reckless motorists.
18. Single-taxers are not socialists for they are individualists, and individualists are not socialists.
19. When we consider the great number of persons killed each year by bootleg liquor which is made from wood alcohol we have to recognize that prohibition is simply murder.
20. Lest we forget! He helped Lorain get \$90,000.00 tornado relief. Let's help him now. Senator Will R. Price, Republican Candidate for Congress, 14th Congressional District.—The LORAIN PRICE-FOR-CONGRESS CLUB.
21. How can a Negro vote for any candidate but a Republican, when he remembers that Lincoln freed the slaves?
22. The missing bather's clothes were found on the beach. He either committed suicide, was drowned accidentally, or was killed by a shark.
23. Before we conclude that we really want to abolish war we ought to note that war times are always prosperous times.
24. Acquired characteristics cannot be inherited because we know no mechanism through which modifications in the soma can affect the germ plasm.
25. One of the bad things about the Italian laborers in this country is that they send much of their earnings back to Europe.
26. George Washington was not a "dry." He once ran a distillery. St. Paul said "Take a little wine for your stomach's sake."
27. If the Russian government favored capitalism, it would want peace. It does not favor capitalism. Therefore, it does not want peace.

28. Dickens was a great novelist. We know this because **he** wrote many books, and all great novelists write many books.
29. We can afford to sell you standard goods for less than our competitors can, because our store is not in the high rent district.
30. The abolition of submarine warfare is for the benefit of the whole world. It is therefore illogical for the French government to hold out against it.
31. Every married woman who works for pay outside her home is depriving some single woman or some man of a needed position.
32. Man is created in the image of God, and since God, as everybody knows, is not a Japanese, it follows that the Japanese is not a man.
33. The Nordic peoples have produced the greatest civilization that the world has ever seen. This fact demonstrates their innate superiority to all other peoples.
34. It is all very well to talk about buying directly from the producer, but how is the retailer to make a living if every one does that?
35. How can you expect me to be friendly toward the British people, when I cannot forget the wrongs they did to my ancestors in Ireland?
36. Statistics of the War Department show that a majority of the men drafted for the World War were physically unfit. The American people is deteriorating physically.
37. A protective tariff increases prices. This makes it possible for a manufacturer to pay high wages, and is the explanation of the prosperity of the American working man.
38. Convincing evidence of the failure of Bolshevism is revealed by the fact that for several years after the World War there was widespread famine in Russia.
39. We cannot rationally doubt the reality of this miracle. The historian whose account we possess reports that the event was witnessed by more than a thousand persons.
40. Who can doubt the enormous disciplinary value of the study of Latin and Greek when we see the admirable intellects of the men trained in the English universities?
41. The Mormons are increasing in numbers throughout the West. If we don't look out they'll soon control all of the United States.
42. College graduates are found to have a much greater likelihood of being elected to Congress than other men have. This shows that to some extent a college education causes political success.

43. I certainly hope the Russians will beat the Japanese. In 1864 the Czar sent a fleet to New York to offer help to the Federal Government against the Confederates.
44. The Democrats had better not try to get Al Smith into the White House with corruption as a campaign issue. If they try it we'll point out the sewer scandals of Tammany Hall.
45. Since some persons who unselfishly wish to benefit America are anti-prohibitionists, we cannot deny that some anti-prohibitionists are persons who unselfishly wish to benefit America.
46. This man is a murderer and though feeble-minded he should be given the full penalty of the law. There is too much maudlin sentiment about imbeciles who commit crime.
47. In view of the fact that the achievement of the Eskimo is far inferior to that of the white man, it is apparent that the Eskimo is naturally inferior in capacity.
48. Dr. Johns will address the class on the subject, "Did Bishop Brown make his heretical statements because he wanted to get notoriety, or because he is getting senile?"
49. "No Catholic can be a great scientist." "But Louis Pasteur was a Catholic, and he was one of the greatest of modern scientists." "Yes, but he was the exception that proves the rule."
50. Cicero proved the innate inferiority of Teutons to Romans by pointing out that the Germans had no art, literature, philosophy, architecture, or law worth mentioning, while the Romans possessed a great civilization.
51. In view of the fact that the world has made its greatest progress in the last 2,000 years, it is obvious that without Christianity there would have been little or no human advance.
52. My aunt is usually very prompt, but she missed her train yesterday. It was an act of Providence which made her late, for the train was wrecked and many persons were injured or killed.
53. A labor leader used to break the bottle every time he had a glass of beer. He said that he helped the working class by stimulating the bottle industry and thereby furnishing employment to labor.
54. All Democrats are not persons who believe in a protective tariff. All singletaxers are not persons who believe in a protective tariff. Therefore all singletaxers are Democrats.
55. All members of the I.W.W. are radicals. Some members of the faculty of the state university are radicals. Therefore some members of the faculty of the state university are members of the I.W.W.

56. These steel workers are not hurt a bit by working twelve hours a day. When I was a boy on the farm I used to work longer than that and it didn't do me any harm.
57. God Almighty never intended that the Greaser should share with the white man in the government of this country; and you cannot improve upon the plans of God Almighty or defeat his purposes, either, by legislative enactments.
58. The person who shot George Cootie was either sane or insane. If he was sane he should be punished as a murderer. If he was insane he should be sent to an institution for the criminally insane.
59. All struggle for existence is a conflict which results in the survival of the fit. War is a struggle for existence. Therefore war is a conflict which results in the survival of the fit.
60. Every alien in the United States is either eligible to citizenship or not eligible to citizenship. No law, either specifically or by interpretation, makes Hottentots ineligible to citizenship. Therefore a Hottentot is eligible to citizenship.
61. If the President supported particular candidates in primary elections he would be playing politics. He does not support particular candidates in primary elections. Therefore he is not playing politics.
62. If the people refused to think, they would be exploited without their knowledge. They do refuse to think. Therefore they are exploited without their knowledge.
63. Remember me at the polls on November 4th. I have lived in this county all my life. I am a veteran of the World War. I am married and have five children. John Smith, Candidate for County Treasurer.
64. We now know that there are no significant differences in mental capacity between men and women. All arguments against coeducation therefore fall to the ground.
65. After I took two bottles of Peruna I felt better than I had for years. There is no doubt that Peruna has done wonders for me.
66. Bishop Wilberforce made a telling hit in his famous debate with Huxley on the subject of evolution. He simply inquired casually whether Huxley was descended from the monkeys on his mother's side or his father's side of the family.
67. If Professor Anderson were an anarchist he would believe that Peter Kropotkin was a great man. He does believe that Peter Kropotkin was a great man. Therefore Professor Anderson is an anarchist.
68. Judge Ames sentenced Mr. Jerb to a year in the penitentiary, just because he helped out a friend by writing a civil service

examination in the friend's name. We ought not to tolerate such an unreasonable man on the bench.

69. There can be no doubt that the student, who says that he is unable to learn to swim, is insincere in his attitude. He has been unable to prove his case either to the physical director or to the dean.
70. The policy of free exploitation of natural resources aided greatly in the development of the United States. It is therefore a mistake to hamper such exploitation now with all this legislation about conservation.
71. All socialists are persons who favor government interference in industry. Some persons who favor government interference in industry are advocates of the child labor amendment. Therefore all advocates of the child labor amendment are socialists.
72. All persons who oppose vivisection are persons who love animals. No investigators in physiology are persons who oppose vivisection. Therefore no investigators in physiology are persons who love animals.
73. If the people were wise, they would recognize that prohibition is the supreme issue of our time. They do not recognize that prohibition is the supreme issue of our time. Therefore they are not wise.
74. All persons who make good scores on intelligence tests have superior minds, so we know that all persons who do not make good scores on intelligence tests do not have superior minds.
75. The constitution of the state of New York has served the state for over sixty years. An instrument that has lasted so long must be good. Let us not change it now.
76. The last four presidents of the United States have declared themselves in favor of the principle embodied in the child labor amendment, and a clear majority of both the Republicans and the Democrats in Congress have favored submitting the amendment to the people.
77. Every physically fit man in the Freshman class must take military drill, because the rule of the University requires it. But why does the rule of the University require it? Because every able-bodied male student must learn the rudiments of military science.
78. When the vote was taken in the House of Representatives on the resolution declaring war against Germany the one woman member wept and said, "I love my country, but I cannot vote for war." I certainly am against having such an emotional person in Congress.
79. All activity that is not play is labor. Such activity includes

school work. The proposed child labor amendment gives Congress power to regulate the labor of children. School work is labor of children. Therefore the proposed child labor amendment gives Congress power to regulate school work.

80. Never mind if I am reported for failing some of my courses at college. James MacNeill Whistler and Edgar Allen Poe were expelled from West Point for poor scholarship. But now professors tell what great men they were.
81. One of the advantages of stadium building which is frequently neglected in drives for building funds is that employment is furnished to many people. Hundreds are given work in construction, and many are employed in the care of the building and the field after they are ready for use.
82. Logic is impractical formalism. No one ever says, "All pedestrians who are in danger of being hit by automobiles are persons who can escape by moving quickly. I am a pedestrian who is in danger of being hit by automobiles. Therefore I am a person who can escape by moving quickly." If I started to reason in this way I should probably be hit before I finished my minor premise.
83. The constitution of the state of New York is over sixty years old. It is therefore time to make a new one.
84. Secretary Bryan negotiated a lot of treaties with other countries providing that in case of dispute neither country shall declare war for a year. They are foolish. People call them "grape juice treaties," because Bryan once served grape juice instead of wine at a state dinner and made himself the laugh-stock of diplomatic circles.
85. Manufacturers are benefited by a tariff on their products, fruit growers are benefited by a tariff on fruit, grain growers are benefited by a tariff on grain, mine operators are benefited by a tariff on mineral products, and so on for all producing classes. Therefore the American people are benefited by the protective tariff.
86. A country that recognizes the independence of a rebellious district of a friendly nation is guilty of an unfriendly act. Britain has recognized the belligerency of the Confederacy. Therefore Britain is guilty of an unfriendly act.
87. Hahn certainly is a fine artist, and probably the jury was right in deciding that he had the best design for the monument. I admit that according to the terms of the competition he had a right to submit his design. I don't complain about his war record or deny that he is a Canadian citizen. But, good night! We can't have a soldier's memorial in Winnipeg that was designed by a man who was born in Germany.

88. The United States ought not to join the World Court because under Article X in the Covenant of the League of Nations we might have to send our boys to Europe to fight the battles of quarrelsome little states like Bulgaria and Roumania.
89. I guess that if men were ever going to abolish poverty that they would have done so long ago. It can't be done and they had better save their efforts.
90. Mr. A spent \$100,000 on the wedding of his daughter. This was a very public-spirited thing for him to do, for he thereby furnished gainful employment to a large number of dress-makers, milliners, caterers, decorators and the like. The extravagance of the rich is the livelihood of the poor.
91. Davenport shows in his *Primitive Traits in Religious Revivals* that the counties in Kentucky and Tennessee in which occurred the fanatical religious revivals of the early nineteenth century, are the counties in which most of the lynchings in these states have taken place. He infers that the habits of mental instability and emotionalism which made these revivals possible were also causal factors in the lynchings.
92. Laborers who work for a low wage can drive out of employment those who get a high wage. Japanese laborers work for some thirty cents per day. Unemployment of Americans will therefore result if Japanese products are not excluded from the United States.
93. Other things being the same, increasing the supply of laborers in a developed country depresses wages. In order to maintain our wage standards immigration must therefore be restricted.
94. Some years ago English workmen discovered in a stratum which the geologists call red crag, an undisturbed primitive stone hearth, which showed evidence of heat. Nearby were found cores from which flint implements had apparently been chipped. Geologists tell us that the red crag stratum is not less than 750,000 years old. We must, therefore, infer that a fire-making, tool-using creature, which was distinctly higher than any animal existing to-day, was living in England three-quarters of a million years ago.

4. In your reading, in attendance at meetings, and in private conversations during the term, watch for examples of the following fallacies. Clip, copy or abstract them.

Number your examples, tell what fallacy each illustrates, and arrange them in your notebook in the order given below. Append to each a brief note describing the fallacy.

(a) illogical obversion

(c) accent

(b) illogical conversion

(d) four terms

(e) undistributed middle	(n) begging the question
(f) illicit process of the major term	(o) complex question
(g) illicit process of the minor term	(p) tu quoque
(h) negative premises	(q) ad hominem
(i) ambiguous terms	(r) ad populum
(j) composition	(s) ad verecundiam
(k) division	(t) objections
(l) accident	(u) the consequent
(m) accident-converse	(v) denying the antecedent
	(w) affirming the consequent
	(x) imperfect disjunction

CHAPTER V

OBSERVATION

Quiz Questions

1. Prepare an outline or summary of the chapter.
2. What is the meaning of "observation"?
3. Distinguish the two phases of observation suggested by the terms "perception" and "apperception."
4. Enumerate ten essentials to the power of observation.
5. Set forth some ways in which we can improve our powers of observation.

Exercises and Problems

1. Give an illustration of "perception" without "apperception."
2. Set forth an example of the use of each of the five senses in the study of social problems.
3. Present an original case showing the significance in observation of (a) proximity; (b) mental maturity; (c) mental normality; (d) all-round alertness; (e) capacity for reasonably accurate estimate without the aid of measuring instruments; (f) ability to make fine discriminations; (g) good general knowledge of the field in which observation is to take place; (h) knowledge of what one wants to see; (i) freedom from excitement; (j) freedom from prejudicing habits.
4. How might the rule followed by Darwin be of use to a student?
5. Show in some detail how our defective observation probably affects our knowledge of any one of the following problems. In considering this topic use the list of points mentioned in Question 3.

- (a) The working of the prohibition laws in the United States
- (b) The effects of woman suffrage in the United States
- (c) The influence of immigration on the United States

CHAPTER VI

DEFINITION, CLASSIFICATION AND STATISTICS

Quiz Questions

1. Prepare an outline or summary of the chapter.
2. Show the difficulties associated with the use of (a) equivocal words, (b) "weasel words."
3. State two reasons why definition is essential in scientific work.
4. What is the point of Professor Seward's compass card?
5. Distinguish between "real" and "artificial" classification.
6. Appraise dichotomy as a scientific basis of classification.
7. Give divisions necessary for a scientific classification.
8. In what way is it appropriate to use the class "All others" in scientific classifications?
9. What are the arguments for and against detailed classifications?
10. State and illustrate four rules of scientific classification.
11. Explain the relation of classification to social conflict.
12. Set forth two reasons why complete enumerations are relatively rare.
13. By what criteria can one judge the worth of an enumeration?
14. Why are pictorial diagrams often misleading?
15. What is the Law of Statistical Regularity? Illustrate.
16. State eight rules for the collection of representative samples on which to base social inductions.
17. What does the scientist do in the presence of conflicting evidence?
18. What is negative evidence? What is it worth?
19. What is the scientific attitude toward incomplete evidence?
20. What is a "scatter plot"?
21. How is a "scatter plot" to be interpreted?
22. Explain the terms "association," "positive correlation," "negative correlation," and "coefficient of correlation."
23. What is the meaning of the term "probable error"?
24. How is a "probable error" to be interpreted?

Exercises and Problems

1. Find out what the census means when it speaks of (a) the population of a city (*1920 Census*, Vol. 1, p. 12); (b) an Indian (*Ibid.*, Vol. 2, p. 17); (c) a farmer (*Ibid.*, Vol. 4, p. 30); (d) a housekeeper (*Ibid.*, Vol. 4, p. 30).

2. Why trouble to give census enumerators minute directions regarding the meaning of words?

3. The classification or statistical method in some of the following cases is good, in others it is bad. Discover whether each conclusion is justified or not. Point out the cause of error when unscientific conclusions are reached.

1. That man is an anarchist and a socialist.
2. This little town has a terrible burden in its handicapped citizens. There are 59 such persons; 30 deaf, 21 dumb, and 8 blind.
3. A poll recently taken on the Twentieth Century Limited showed 147 votes for Hoover, 19 for Smith, and 3 for Thomas. Straws show the direction of the wind.
4. Barton contends that the national honor of France will require her to fight if her flag is insulted in a foreign land and adequate apology is not made. Barnes denies this.
5. The census rates women in the home as of "no occupation." This is grossly unfair, as the director of the census would discover if he tried to manage a home.
6. By age groups the workers in the factory are to be classed as follows: 10-20, 40; 20-30, 43; 30-40, 38; 40-50, 21; 50-60, 16; 60-70, 3.
7. Last year at Briggs College there were 41 men out for football, 28 for basketball, 32 for baseball, 31 for track and 8 for tennis. That is, 140 out of the 263 men in the student body were actively participating in some sport, a notably good record.
8. In order to register as voter the applicant must satisfy the election judges of his ability to read and understand the Constitution of the United States. This rule shall not apply to persons descended from any one who could vote under any civil government prior to 1860.
9. There is something queer about these figures. Our records show that there are 609 students in the college, and 41 faculty members. Here is an address card for every one on either list, yet there are only 642 cards.
10. Some years ago one of the eastern states passed a law providing that five years after its passage all new voters in the state

must be able to read in some language and also be able to write their own names. No persons registered as voters before the end of the five years would have to meet this requirement, however.

11. In making up the ratings of those who take the civil service examinations the commissioners shall add 5 per cent to the grade of each person who gives satisfactory evidence of war-time service, ending in honorable discharge, in the army, navy, or army nurses' corps of the United States or of its allies.
12. In America the law commonly makes discriminations between men and women. It restricts hours of employment of women, and in most states forbids them to enter certain occupations. The Woman's Party will continue its educational work till by constitutional amendment all these unreasonable laws are swept away.
13. Professor Smith, author of the well-known *Famous American Women* and *Famous College Presidents* is now writing a work on *Famous American Smiths*. This study will include biographical sketches of such worthies as Capt. John Smith, Samuel F. Smith, Joseph Smith, and Alfred E. Smith.
14. The population of the United States is about one hundred and twenty million. The census reports that there are in the country about three million Jews and a few hundred thousand members of other non-Christian groups, such as Buddhists and Confucianists. We are safe in saying, therefore, that there are well over one hundred and sixteen million Christians in the United States.
15. It is my custom to give examinations with many questions which can be rated readily as correctly or incorrectly answered. I then give the grade of A to the best 5 per cent of the students, B to the next 20 per cent, C to the next 50 per cent, D to the next 20 per cent and F to the last 5 per cent.
16. A young woman who entered a hospital was having her admission card filled out. "What is your religion?" she was asked. "Unitarian," was the reply. "Protestant," said the nurse. "No," replied the patient. "I'll have to put you down that way, anyhow," answered the nurse. "You are a Christian but you are not a Catholic, so you must be a Protestant."
17. *Fruits of the Parole System*. . . The last prisoner received June 30, 1925, was given the number 54,514. This means that 54,514 convicts have been sentenced since 1834, when the third penitentiary was built. On the other hand, of these 54,514 convicts, only 359 men "now in the Penitentiary have been here before." This proves that the habitual criminal class is not very large in a state of six million people.—*Annual Report*

Department of Public Welfare, Ohio, 1925, Advance Sheets, pp. 58-59.

18. As a result of the 1926 election, representatives were chosen to the upper house of the Parliament of Holland who were classified in the following manner: Catholics, 16; Social Democrats, 11; Anti-Revolutionists, 7; Protestant Party, 7; Liberty Union, 6; Democrats, 3.—*The New International Yearbook, 1927, p. 580.*
19. In 1906 the Burke Act provided that Indians whose tribal land should be cut up in the future were to remain wards of the Government for twenty-five years, as a period in which they should learn to manage their own affairs. The Act also empowered the Secretary of the Interior whenever satisfied on the competence of an Indian to manage his own affairs, to suspend the trust and clothe him with citizenship without waiting for the expiration of the twenty-five-year probation period. In 1924, Congress replaced this law by one which put all Indians in one class. The new statute immediately conferred all rights of citizenship, including the right to vote and the right to sell property, upon every adult Indian in the United States.
20. In the course of his testimony before the Committee on Education and Labor of the United States Senate, W. R. Thurmond, President of Logan Coal Operators' Association, was asked for information as to the earnings of miners in the Logan, W. Va., district. Mr. Thurmond stated that the earnings of 75 men at 15 different operations had been computed, showing that the average gross earning of the mine workers, was \$313.87 per month. There was deducted from this wage an average of \$45.78 for store account, \$5.06 for rent, and \$1.05 for coal; \$1.29 for doctors' bills, 49 cents for hospital charges, and 38 cents for smithing, 69 cents for electric light and \$9.55 miscellaneous, making total deductions of \$64.29. The net earnings paid in cash to the miners average \$249.58 per month, after payment of living expenses. These facts show that the miners of West Virginia are not underpaid.
21. The Census of 1910 reported that there were some two million children gainfully employed. The Census of 1920 reported only about a million children gainfully employed. These figures must be discounted heavily, however, because the latter census was taken at the beginning of a period of industrial depression and because the census date was changed from April 15 in 1910 to January 1 in 1920.
22. Professor Philip A. Parsons classified criminals in the following manner: (1) insane, (2) born, (3) habitual, (4) profes-

sional, (5) occasional, (6) by passion or accident.—*Responsibility for Crime*, p. 30.

23. The commission which came to the United States in 1925 to arrange the funding of the Italian war debt presented to the American commission a pictorial diagram. This graph was designed to show the difficulty with which the several nations bore the burden of their war debts. An American girl was portrayed holding lightly over her head a slender iron rod. A Briton was shown holding with difficulty a very large bar over his head. A Frenchman was depicted as forced to one knee by a still larger bar. Finally, an Italian was presented, prostrate beneath a massive weight.

In order for the comparison to be fair, should the several individuals portrayed in the diagram be of the same size, or in proportion to some such circumstance as national population or national wealth? If in proportion, should the proportion be linear, areal, or cubic? Should the proportion of the weights be linear, areal, or cubic? Give reasons for your answer.

24. In the presidential elections of the last forty years percentages of the popular vote and of the electoral vote received by the winning candidate have been as follows: Harrison (1888), 47.8 and 58.1; Cleveland (1892), 46.2 and 62.4; McKinley (1896), 50.9 and 60.6; McKinley (1900), 51.7 and 65.3; Roosevelt (1904), 56.4 and 70.6; Taft (1908), 51.6 and 66.5; Wilson (1912), 41.8 and 81.9; Wilson (1916), 48.9 and 51.8; Harding (1920), 60.6 and 76.1; Coolidge (1924), 54.0 and 71.9; Hoover (1928), 58.2 and 83.6.

Find the correlation between the share of the popular vote and of the electoral vote. Find the probable error.

25. There is a popular belief that the vote in the Maine election in September furnishes a reliable basis for predicting how the presidential poll will go in the following November. Test this belief by working out the correlation between the per cent of the Maine vote for governor received by the Republican candidate in September and the per cent of the electoral vote received by the Republican presidential candidate in November. Find the probable error.

The two series of figures for the last forty years are as follows:

1888: 54.6 and 58.1	1908: 51.5 and 66.5
1892: 52.1 and 32.7	1916: 54.0 and 48.0
1896: 66.9 and 60.6	1920: 65.9 and 76.1
1900: 62.3 and 65.3	1924: 57.3 and 71.9
1904: 58.5 and 70.6	1928: 69.2 and 83.6

(The figures for 1912 are omitted because in that year the Republican presidential vote was divided between Taft and Roosevelt, although there was but one candidate for governor for both Republicans and Progressives.)

4. Put the following eleven items in an orderly classification which will conform to the rules given on p. 134. Make whatever changes are necessary in the classification in order to make it scientific, but make no more changes than are needed.

The Board classified objectors as follows:

- 1-A. Those found to be sincere religious objectors, and recommended for farm or industrial furlough.
- 1-B. Those found to be sincere non-religious objectors, and recommended for farm or industrial furlough.
- 1-C. Those found to be sincere conscientious objectors, who are recommended for the Friends' Reconstruction Unit.
- 2-A. Those found to be sincere conscientious objectors as to combatant, but not sincere as to non-combatant service, and who are therefore recommended to be assigned to non-combatant service.
- 2-B. Those found to be sincere conscientious objectors who are willing to accept, and who are therefore recommended for, non-combatant service.
- 2-C. Those found to be sincere conscientious objectors, who are willing to accept service in and who are assigned to, reconstruction hospitals.
3. Those found to be insincere and assignable to any military duty.
4. Those objectors who are recommended to be sent to Fort Leavenworth, Kansas, for further examination.
5. Those objectors who, upon examination, withdraw their objections.
6. Those found to be sick or unfit for examination, and recommended to be sent to a hospital for treatment.
7. Alien enemies or neutrals.
8. Those objectors who are recommended for mental examination and discharge, if not found competent.
9. Not in camp—not seen by the Board.
10. Under criminal charges—the Board expresses no opinion until the decision of the court.
11. Tried by court-martial, therefore no opinion is now expressed.—Walter Guest Kellogg, *The Conscientious Objector*, pp. 31, 32.

CHAPTER VII

MILL'S EXPERIMENTAL METHODS

Quiz Questions

1. Prepare an outline or summary of the chapter.
2. Explain in your own words and illustrate originally:
 - (a) the method of agreement
 - (b) the method of difference
 - (c) the joint method of agreement and difference
 - (d) the method of concomitant variations
 - (e) the method of residues
3. Explain and illustrate the fallacy of the false cause (*Post hoc, ergo, propter hoc.*)
4. Explain an original example of the process of "equilibrating" groups for purposes of comparison.

Exercises and Problems

1. The reasoning in some of the following exercises is good, in others it is bad. Discover whether each inference is logically justified or not. Point out the source of error when illogical conclusions are reached. Note that some of the problems involve deduction and enumeration, quite as much as induction.
1. The several points in the argument cited in "Popular Discussion," pp. 124-126.
2. A college sophomore recently discovered a new form of dilemma, and yet some people say that college students do not think originally nowadays.
3. Dr. Vogt, an eminent German scientist, shows us from his study of the skull of a Papuan woman that the Malay is inferior.
4. The influence of fatigue in causing carelessness and accident is revealed by the fact that, in many lines of work, it has been found that there is a high correlation between the number of hours worked and the accident rate.
5. It is a significant fact that the great American poets, Longfellow, Holmes, Bryant, and Lowell were all Unitarians.
6. At the retreat from Mons a British soldier saw angels with bows and arrows fighting against the Germans. Plainly the Lord was on the side of the Allies.
7. A study of college women in Smith, Mount Holyoke, Wellesley, Vassar and Bryn Mawr proves that college women have fewer children than have women without college educations.

8. Whenever the Democrats control the Federal government there is a business depression. The Democrats ought therefore not to be trusted with the reins of government.
9. After two years of work the Baltimore Commission on Unemployment reported a great reduction in unemployment. Its methods are worthy of being copied in other cities.
10. Marriage favors longevity. The census shows that the death rate among married persons is lower than that among unmarried persons in the same age group.
11. Sir Oliver Lodge asserts that he has received many messages from his dead son. One can hardly refuse to accept the testimony of so eminent a scientist as proof of the power of the dead to communicate with us.
12. The records of 12,492 foreign-born recruits who took army intelligence tests at the time of the World War have been treated statistically. With these facts in hand a scholar concludes that "the results of the psychological tests . . . indicate definitely that the average intelligence of succeeding waves of immigration has become progressively lower."
—*New Republic*, Vol. XXXIV, p. 245.
13. Clergymen have collected thousands of cases in which folks who prayed earnestly received what they desired. In the face of this unquestionable fact one cannot reasonably deny the efficacy of prayer.
14. In the army mental tests, the average score made by Negroes was considerably lower than the average score made by whites. Since these tests were taken by hundreds of thousands of men, they furnish conclusive evidence of the innate mental inferiority of the Negro.
15. In Seattle, where the attendance laws are rigidly enforced, of the total male school population, 10 per cent had a perfect attendance record, while 35 per cent of the newsboys had a perfect record. This shows that selling papers does not tend to cause irregular attendance.
16. I was always in favor of trade unions till to-day. This morning a locksmith came to my house to fix a lock. He said he could not put four little screws into a lock to hold it in place, because that was a carpenter's job.
17. The innate criminality of the Mexican is shown by the fact that while he constitutes less than 3 per cent of the population of the friendly state of Wyoming, the Mexican furnishes that state with 17 per cent of the male criminals and 35 per cent of the female criminals.
18. A careful study of 201 Clark College men, including all the members of the classes 1907 to 1911, showed that the heavy

smokers did the poorest work and the non-smokers did the best work. This discovery revealed the harmful influence of the use of tobacco on mental activity.

19. Life in a war-time trench and in "no man's land" was far safer than it is in America's peace-time cradle. For every 1,000 men in the American army in the World War, 10 were killed in action or died of wounds received at the front. For every thousand babies born in the United States, over 70 died in their first year, more than seven times the mortality of our soldiers.
20. "We chose two spots as widely separate as Sweet Briar, Virginia, and Berkeley, California, for extending our investigation of the care of the skin among young American college girls. Fifteen hundred and sixty-six girls answered our questions, giving us frank full information. More than half (961) said they were using Woodbury's Soap regularly for their skin."
21. In his study of British genius, Ellis discovered that first-born children most frequently achieved fame, and that last-born children were their closest rivals. Clarke's study of American men of letters reveals this same phenomenon. It is therefore clear that there is something in the social environment which is favorable to first- and last-born children.
22. Of the foreign-born white population of the United States at the 1920 census, the records of the Census Bureau show that the percentages from some of the different nations that had become citizens were as follows: England, 63; Scotland, 60; Wales, 72; Ireland, 65; Norway, 67; Sweden, 69; Germany, 72; Turkey, 20; Greece, 16; Albania, 7; Italy, 28; Spain, 9, and Portugal, 16. These facts prove that the "new" immigrants from some countries are less eager to become naturalized than were the "old" immigrants.
23. The death rate from cancer in the United States for the five years ending with 1876 was 37.2 per 100,000 of population. For the five years ending with 1911 it was 80.5. It appears that cancer is now (1912) becoming increasingly prevalent.
24. In Connecticut in 1910 there were 68 white juvenile delinquents per 100,000 of white population. There were only 4 in Georgia. It seems that the New England educational system is not the promoter of virtue which it is believed to be.
25. Some sociologists say that the "new" immigrant is intellectually the equal of the "old," so far as the innate capacity is concerned. A larger number are of the opinion, however, that the "new" immigrant is essentially inferior. The latter opinion is therefore probably correct.

26. The population of the United States has increased thirty-five fold since 1790. In the same period the expenditures of the Federal government have increased several hundred fold. Obviously the Federal government is vastly more extravagant than it was in the beginning.
27. In the Crimean War 22 per cent of the wounded died. The German death rate in the Franco-Prussian War was less than 18 per cent. Early in the World War Mr. Asquith reported that the death rate among English wounded was 24 per cent. Apparently the English medical service was in need of investigation.
28. "Bankers are famous for accuracy of judgment; their whole training and experience have taught them to be *sure* before passing an opinion. So when actual interviews disclose that out of 325 bankers 222 name the Gillette as the means they take to a smooth comfortable shave, it is another proof that, based on the perfection of its shaving service, Gillette pre-eminence is an indisputable fact!"
29. The following statistics of the 1918 "flu" epidemic are respectfully submitted:

One of every 16 patients died under medical treatments.
One of every 127 patients died under osteopathic treatments.
One of every 513 patients died under Christian Science treatments.
One of every 886 patients died under chiropractic adjustments.
30. Professor Boas reports, after studying several hundred immigrant families chosen at random, that the American-born children of long-headed parents have broader heads and the American-born children of broad-headed parents have longer heads than did their parents. Apparently there is something in the physical environment in America which changes the skull form.
31. A South American city suffered from a smallpox epidemic in which several thousand persons were stricken. It was found that of the persons in the city whom the school records showed to have been vaccinated, only 2 per cent were stricken, while 40 per cent of those not vaccinated were afflicted. This proved that vaccination is a preventive of smallpox.
32. The Austrian biologist, Kammerer, has made experiments on the sea anemone. He cut off the breathing tubes of a number of individuals, which thereupon grew much larger tubes than they had had in the first place. Their offspring, too, developed abnormally large tubes. This experiment shows that acquired characteristics are inherited.

33. Babe Ruth, Roger Hornsby, Charlie Chaplin, Norma Talmadge, and a number of other well-known Americans have taken the blindfold cigarette test. They have smoked four leading brands of cigarette, clearing the taste with black coffee between smokes. Only one question was asked, "Which do you like best?" All chose Old Gold!
34. A study of how 1,000 workingmen spent their spare time for a week shows that the men working shorter hours spent more time with their families and in places desirable for education and recreation. This study shows the benefits which a shorter working day will bring to the workers.
35. The United States Forest Service had made a study of the relation of carelessness of smokers and forest fires. It tested nine different brands of cigarette. Burning stubs one and a fourth inches long, the average length of butts as they are thrown away, were thrown into a dry grass pad. Some tests were made in still air and others in winds generated by a small fan. Ignition took place in the following proportion of cases:

<i>Velocity of wind, miles per hour</i>	<i>Per cent of ignitions</i>
0	0.0
1-3	41.2
3-4	85.3
4-5	50.8
5-8	57.7

—*Literary Digest*, Vol. XCIX (Oct. 6, 1928), p. 22.

36. "We have, in mental tests, a rough way of finding out how much the children are really profiting intellectually by a nursery school regime. We have taken two series of repeated mental tests in connection with the school, one of the children in the school and the other of children on our large waiting list. As far as we know, the children on the waiting list are no different in kind from those in the school; it is merely lack of space that has kept them out. In comparing the tests and retests of the two series we find that the intelligence quotients of the children in the school are going up at a spectacular rate as compared with the children on the waiting list." —Helen T. Woolley, *Concerning Parents*, p. 55.
37. In general Americans have a passion to read about sex, according to E. Haldeman-Julius, who has sold more than a hundred million of his Little Blue Books in the last ten years, and who has just published a candid analysis of his sales methods. He tells us that people buy a book whose title suggests sex much more readily than they do one whose title

conveys no such suggestions. In 1926, for example, a translation of Hugo's play sold 8,000 copies under the title, *The King Enjoys Himself*; in 1927 the same translation sold 38,000 copies when offered as *The Lustful King Enjoys Himself*.

—*Nation*, Vol. CXXVII, p. 441, adapted.

38. Comparison of the per cent of students who received the several grades last year from Professor Steinmetz and Professor Fox in elementary German gives the following results:

	A	B	C	D	E & F	Total
<i>Steinmetz</i>						
Number	14	30	69	17	5	135
Per cent	10.4	22.2	51.1	12.6	3.7	100
<i>Fox</i>						
Number	12	53	34	1	1	101
Per cent	11.9	52.5	33.6	1.0	1.0	100

Frink contends that Steinmetz must be the poorer teacher. Libby insists that the figures show only that he is more strict in his grading.

39. Shortly before the War geographers and other persons who were well acquainted with many parts of the world estimated, on a scale ranging from zero to one hundred, the height of civilization in the several countries and regions of the globe. A figure representing the average rating of each section was placed on a map of the world. On another map were placed figures indicating on a similar scale the degree of excellence of the climatic conditions which prevailed in each region, as determined by combining the influences of such factors as temperature, rainfall, seasonal variations, and the like. Comparison of these two maps showed such remarkable correlation between the height of civilization and excellence of climatic conditions as to lead irresistibly to the conclusion that climate is the determining factor in the height of civilization.
40. "History, the investigations of experts show, discloses the fact that few great geniuses have red hair. Almost alone among the poets was Swinburne, whose hair was reddish, and among the reformers only John Bunyan's hair was really red. The flaxen-haired blond, or the man whose hair when he is an adult is true yellow, is also said to be unlikely to possess genius. The only case known is that of Thackeray, whose hair has been described as yellow. A careful review has been made of the biography of most of the eminent men of the world, and Kassel has tabulated the results of his work, so

far as the color of the hair is concerned. Dark brown to black is the prevailing hue on the heads of great men. A list of fifty names has been compiled in which the color of the hair is given by biographers, and 90 per cent are dark brown or black."

41. Education pays. Here is the proof: . . . the relative educational equipment of the 24,278 persons whose sketches appear in the 1922-1923 edition of *Who's Who in America*. College graduates numbered 14,055, or about 64 per cent of the total number whose sketches appear in the book. The significant feature . . . is that whereas there are 14,055 college graduates named in the volume, the number reporting a common school education is only 1,880.

—*Who's Who in America*, Vol. XV (1928-1929), p. 26.

42. In the autumn of 1914 the Federal Children's Bureau made a study of infants born in Manchester, New Hampshire, in the twelve months ending with November, 1913. This study included all infants, 1,643 in number, whose births had been officially registered and whose subsequent history could be learned. Comparison was made of earnings of fathers and the infant mortality rate, with results shown in the following table.

<i>Earnings of father in year</i>	<i>Infant mortality rate</i>
Under \$494	262.4
\$494-\$571	145.7
\$572-\$675	191.7
\$676-\$883	145.7
\$884-\$1091	146.2
\$1092 and over	53.2

This table shows that there is a high degree of association of low earnings with a high infant death rate.

—Beatrice Sheets Duncan and Emma Duke, *Infant Mortality*, p. 16.

43. Two college classes were recently studied to determine the influence of examinations upon learning. Each student in Class A was paired with a student in Class B who was making an equally good record in the same subject. In the middle of the term the students in Class B were told that they would not be given a final examination. They were, nevertheless, asked at the end of the term to write, without warning, such an examination. It then appeared that students in Class A, who had been expecting the examination, did some twenty per cent better than did the students in Class B, who had not been expecting an examination.

44. Teachers at the University of Iowa have devised a test for predicting success in learning modern languages. The first part of the test consists of simple Esperanto words and sentences, together with a translation and an explanation of how the words are derived and the sentences constructed. The second part of the test consists of similar Esperanto words and sentences which are formed in a like manner. These the student is asked to translate. The better the rating he gains on the test, the better language student he will probably be.
45. Professor Raymond Pearl bred hens for over ten years, selecting always from the best layers, in an effort to increase the laying power of his flock. The average production of the stock declined steadily. He then bred from the parents of superior layers. In this manner he succeeded in raising and holding high the level of flock production. These experiments show that in poultry superior individuals are not as likely to produce superior offspring as are the parents of superior offspring.
—*American Mercury*, Vol. XII, p. 259.
46. Professor Pearl made a simple study of the heredity of men of genius. He considered all individuals who received a full-page biography in the current *Encyclopædia Britannica*. These he classified by professions. He found 63 philosophers. Of these only three had parents who were honored by separate articles in the *Britannica*. Only five of the 63, moreover, had superior children, of whom three are described in separate notices in the *Britannica*.

Of 85 poets, only three had fathers separately mentioned in the *Britannica*, and no one of their children was separately mentioned.

These facts indicate that over nine times as many famous sons were produced by mediocre people as were produced by eminent people. "What a ridiculous basis do such results furnish for the eugenic dogma that only superior people should be encouraged to breed freely!"

—*American Mercury*, Vol. XII, pp. 263-266.

47. The twenty-five thousand odd persons who received separate biographical notices in the current *Britannica* had three sons of eminence as philosophers, or one in less than nine thousand. All other persons who have lived since recorded history began, a number certainly in excess of ten billion, produced only 80 sons of eminence as philosophers, or certainly less than one in a hundred million. It follows, therefore, that a person of eminence is far more likely to have an eminent son than is a mediocre person.

48. The American Telephone and Telegraph Company has studied the records of 4,125 college graduates in its employ, to determine the relation of college scholarship and success in the Bell System. The records of 319 graduates were eliminated, because they had spent more than half of their business careers outside the Bell System. College officials classified the other 3,806 men, as being in the first third, second third, or last third of their college class. The Company then classified these same men as being in the first third, second third, or last third of the group of 3,806 with respect to earnings. The two sets of facts were then assembled in one table, which shows the per cent of each scholarship group found in each income group.

RANK IN COLLEGE CLASS	SALARY GROUPS		
	Highest Third	Middle Third	Lowest Third
Highest third	48	27	25
Middle third	24	39	37
Lowest third	22	31	47

—Walter S. Gifford, *Harper's Magazine*, Vol. CLVI, pp. 669-674.

49. The digestibility of arrowroot, even in a raw state, has been shown in convincing experiments, made at the Hawaiian Agricultural Experiment Station. As part of a simple, mixed diet, two subjects took, on the average, 124 grams of raw arrowroot starch daily. Tests showed that in the case of one of the subjects no starch was eliminated, so we may assume that in that instance the starch was thoroughly digested. In the case of the other subject it was found that some starch, estimated not to exceed 7.9 per cent of the intake, was eliminated.
2. In your reading, in attendance at meetings and in private conversations during the term, watch for examples of good use and of misuse of the methods of definition, enumeration, classification, and induction. Clip, copy or abstract them. Number your examples, tell what each illustrates, and arrange them in your notebook in the order given on p. 401. Append to each case of bad logic a brief note describing the fallacy.

CHAPTER VIII

ANALOGY AND THE COMPARATIVE METHOD

Quiz Questions

1. Prepare an outline or summary of the chapter.
2. What is the method of analogy in logic and science?
3. Why is analogy frequently misleading?
4. Under what conditions is analogy valid?
5. State and illustrate four circumstances present in valid analogies.
6. Enumerate several common forms of analogy.
7. What danger inheres in the use of analogy?
8. In what way is analogy highly useful to the scientist?
9. What often-neglected factor must be carefully considered in determining the worth of an analogy?
10. Define and illustrate the comparative method and the genetic method.
11. What is the historical method?
12. What is often the source of error in comparative studies?
13. Explain the error committed by extreme diffusionists in the field of social origins.
14. Describe the "comparative method of anthropology."
15. State Goldenweiser's criticism of this method.
16. "Induction is the method of science." Comment in some detail.

Exercises and Problems

1. The reasoning in some of the following exercises is good, in others it is bad. Discover whether each inference is logically justified or not. Point out the source of error when illogical conclusions are reached.

1. The Parable of the Rich Householder (pp. 194-196).
2. "You would not eat green grapes. Clicquot Club Ginger Ale is aged for six months."
3. No city could maintain order without a police department. Neither can a nation keep the peace without an adequate army and navy.
4. General von Hindenberg was a notably able military leader. It stands to reason, then, that he must be a good president for Germany.
5. No one denies that it is socially desirable to prohibit the use of narcotic drugs except for medicinal and scientific purposes.

How can one deny that it is also desirable to prohibit the use of alcoholic beverages except for the same purposes?

6. It seems to make a great difference whose ox is gored. You condemn the communist who destroys private property as a part of his revolutionary strategy, but you take pride in the fact that your ancestors participated in the Boston Tea Party, in which much private property was deliberately and illegally destroyed.
7. Political scientists agree that it is more efficient to have the President appoint his cabinet than it would be to have it elected by the people. Likewise it would be more efficient to have the governor of a state appoint the chief members of his official family, instead of having them elected.
8. No man who has hunting dogs trains the males for hunting, but keeps the females at home. Rather does he train both for the hunt. Although the females must at times stay at home with the young, and though they are not as strong as the males, yet they are better off for living, as far as they can, like the males. So it should be in human society. It is best, not that women should be confined to the home, but that they should participate, as far as they can, in all the activities of life.
—Plato, *The Republic*, adapted.
9. When you are sick you call a physician; you do not consult the Committee on Health of the houses of the Legislature. When you are in need of money you see a banker; not the legislative Committee on Finance. Why, then, should you ask the Legislature to decide what to have taught in the State University, instead of the specialists, the faculty of the University?
10. Why do you ask the Legislature to make military training optional in the State University? This appears to be an educational matter, and only a few days ago you appeared before a committee of the Legislature to protest against a bill forbidding the teaching of evolution, on the ground that it was a matter for educators to decide.
11. A skeptic who went into the laboratory of an astronomer saw an elaborate model of the solar system. By means of gears and levers the miniature orbs could be made to imitate the movement of the planets around the sun. "That must be a great help to teaching," said the skeptic. "Who made it?" "No one made it," replied the astronomer, "it just evolved." "Don't be foolish," retorted the visitor, "a piece of apparatus so well adapted for use must have been made by some one." "How then," asked the astronomer, "can you assert that the

earth, which is so finely adapted to the use of man, did not have a maker?"

12. A convicted criminal is like a sick man. No physician would think of ordering that a patient should stay in the hospital for not less than one or more than six weeks. He would expect the patient to stay in the hospital till he was cured, whether it took one week or six months. We should treat the criminal as we treat the patient. We should detain him until it appears that he is able to reënter society as a normal individual. It is useless to hold in prison a man who has reached this stage, and it is foolhardy to release a criminal when he has not reached it. The rational thing, therefore, is to have the indeterminate sentence.
13. In a conversation between two college students, one asked: "If your brother asked you to go with him to collect money some one owed him, and it was going to be necessary to kill in order to collect this debt, would you go?"
Second student: "No! My conception of family loyalty does not admit of committing murder because of it."
"Well, then—if your country went to war to collect a debt from another nation—although it employed another pretext, would you go?"
"Oh—that's different. That wouldn't be murder—that would be patriotism." —*The Dove.*
14. Suppose we had a religious examining board in this state that examined every priest, clergyman, and rabbi before he was granted license to preach.
Imagine that board to be composed of all Protestant ministers, and imagine all young Catholic priests being forced to undergo an examination given by these Protestant ministers before they could preach!
Or a board to be composed of all Catholic priests, before whom Protestant preachers must be examined before they are granted licenses to preach.
You can readily see the injustice of such an arrangement. The injustice is just as great when drugless practitioners are forced to undergo examinations given them by medical men.
15. Beware of false prophets, which come to you in sheep's clothing, but inwardly they are ravening wolves.
Ye shall know them by their fruits. Do men gather grapes of thorns, or figs of thistles?
Even so every good tree bringeth forth good fruit; but a corrupt tree bringeth forth evil fruit.
A good tree cannot bring forth evil fruit, neither can a corrupt tree bring forth good fruit.

Every tree that bringeth not forth good fruit is hewn down, and cast into the fire.

Wherefore by their fruits ye shall know them.

—Matthew 7:15-20.

16. The organization of the human family has evolved through a number of stages. At first, descent was traced through mothers only, as among the Iroquois. This matriarchal system was presently superseded by a system of tracing descent through the father only, as among the ancient Romans. This was the patriarchal system. Finally, there was developed the practice of tracing descent through both father and mother, as among ourselves.
17. Pennsylvania has a constabulary system that has been most helpful in putting down crime in the rural districts. Such a system would probably be a good one for Ohio.
18. You can no more infer the suitability of the excess profits tax from British experience than you can make a plaster cast of the surface of Britain fit the surface of the United States.
19. The analogy between Scipio and Colgate's—"The younger Africanus was the first who adopted the custom of shaving every day" (Pliny's *Natural History*, Book 7, Chapter 59). By causing whiskers to come off, Scipio was distinguished among his compatriots. Colgate's Rapid-Shave Cream is distinguished for causing whiskers to come off *more easily*.
20. Surely, any citizen must be justified in his conservatism who refuses to abandon to Gov. Smith a constitutional mandate so intimately connected with public morals and social control as prohibition. We may even liken the situation to a great business that has failed. Assume that it must be liquidated. Who should be placed in charge, as receivers, of the wrecked concern? Men who have deliberately sought to ruin it, or who had helped to ruin it by interposing obstacles to its success? On the contrary, every one would demand that liquidation be conducted by men concerned to conserve the assets and realize for the shareholders as much as could be salvaged from the wreck. If indeed a receivership question already confronts us, there is but one answer. At the worst, that answer is Hoover. The friends, not the enemies, of prohibition must be permitted to end it if they cannot amend it.
—Editorial, Springfield (Mass.), *Republican*, Oct. 27, 1928.
21. "The United States Government has a quota restriction by which only so many people from each country are allowed to enter our shores each month. Most people are convinced that this policy is right, and agree that we should slow down on the number as well as the kind of immigrants coming here.

But while we close our gates to the so-called 'undesirables' of other countries, we make no attempt to discourage or cut down the rapid multiplication of the unfit and undesirable at home."

—Margaret Sanger.

22. No free state can possibly make a crime out of refusal to serve in war when such refusal is actuated by sincere conscientious motives. We may consider such an attitude illogical, absurd. We may see grave public inconveniences in it. But we have passed beyond the point of barbarism in which men presume to distinguish between the logical and the illogical, the serviceable and the disserviceable in other men's consciences. We do not compel men to eat meat on Friday if their consciences require them to fast. We do not require men to eat swine's flesh when their consciences pronounce it an abomination. And if a man's conscience forbids him to serve in war, or to perform any service that even indirectly bears upon war, we are bound to respect it. To attempt by threats and penalties to force such a man into military service would be tyranny as hideous as that of the Roman proconsul who slew the seven brothers and their mother because they refused to eat swine's flesh.—*New Republic*, quoted in Kellogg, *The Conscientious Objector*, pp. 119-120.
23. The notion that the dictates of conscience should constitute a defense to the commission of a crime is repugnant to all systems of justice. No judge would, for a moment, listen to a burglar who had broken into a house solely because he conscientiously believed that he needed his neighbor's bread, nor to a self-confessed murderer who should say that he had killed his friend because he had been driven by a conscientious conviction that his friend had to be killed. Conscience which, as a plea, is not heeded in a court of law should carry no more weight when urged as an excuse from war.

—Kellogg, *op. cit.*, p. 122.
24. The earliest human societies consisted of groups of a few score kindred, without political organization, but bound together by need of coöperation in getting food, and by belief in a common luck, or magic. These groups, called hordes, were much like the Eskimo bands of to-day. Presently, probably under military pressure, a number of hordes became united, with development of considerable political organization. The new group was the tribe, the original hordes continued as clans, within the tribe. North American Indians generally lived under clan and tribal organization. Finally, tribes became transformed into civil groups. This change generally took place as it did in ancient Greece. There resident out-

siders, though not of the blood, were gradually admitted to limited and then to full membership in a new group, the city state. The clans persisted as religious organizations, but presently became unimportant and finally disappeared.

25. Professor Johannsen tells us that the only certain guarantee of the worth of a bean for the breeding of a superior race is not its own superiority, but the superiority of its progeny. Professor Pearl discovers the same thing to be true with respect to poultry. Since there is no reason to believe that the mechanisms of human heredity are different from those of plants and animals, we may infer that human stock will be improved, not by breeding from the best, but by breeding from the parents of the best.

—*American Mercury*, Vol. XII, pp. 258-259.

CHAPTER IX

ASSUMPTIONS AND HYPOTHESES

Quiz Questions

1. Prepare an outline or summary of the chapter.
2. What is an assumption? Illustrate.
3. Define the term "hypothesis." Give an example.
4. Set forth three things which we can do to avoid making false assumptions.
5. State dangers in hypothesis making and using.
6. What is the "faith ladder"? Why do men climb it? How?
7. Enumerate four essentials to the scientific use of hypotheses.
8. What is the relation of the scientific spirit to hypothesis making? How is this spirit to be obtained?
9. What is the method of multiple hypotheses? What are its advantages?

Exercises and Problems

1. Cite several important current assumptions which you believe to be false and to cause great harm. Defend your position.
2. For the purpose of illustrating the fact of social complexity, enumerate a score of causes of the creation of the League of Nations.
3. Make an equal list of events which probably would have been different or would not have occurred had the League not been created.

4. "Social phenomena are relatively simple, so that relatively direct measures will remedy social disorders." Demonstrate a case of this fallacy in the fields of economics, political science, sociology.

5. Illustrate the process of forgetting that an hypothesis is an hypothesis.

6. Show in a current problem how the faith ladder is ascended.

7. Give an example of "proving" an hypothesis.

8. Mr. Searles wishes to study the relative merits of the political parties in the United States, uninfluenced by the beliefs of his family or his community. He is going to compare the Democratic, Prohibition, Republican, and Socialist parties. Give concrete advice regarding what he should do to guard against favoring any one of these parties by (a) making important assumptions without being aware of it; (b) immoderation in the support of an hypothesis; (c) "proving" an hypothesis.

9. Does Mr. Searles' plan lack any essential to a truly scientific pursuit of his purpose?

CHAPTER X

CIRCUMSTANTIAL EVIDENCE AND PROOF OF HYPOTHESES

Quiz Questions

1. Prepare an outline or summary of the chapter.

2. Explain the nature of circumstantial evidence.

3. Explain how the hypothetical syllogism is correctly used in testing circumstantial evidence.

4. How is the hypothetical syllogism often incorrectly used for this purpose?

5. Show that the use of circumstantial evidence is really the use of analogy.

6. In the light of what three principles do scientists choose among hypotheses?

7. Outline the complete process of using hypotheses.

8. In what lies the strength and in what the weakness of circumstantial evidence?

9. Why and how is circumstantial evidence commonly misused?

10. Tell the possible significance in circumstantial evidence of (a) failure to speak; (b) silence in written sources; (c) the nature of positive human acts.

11. Set forth the principle of "convergence of evidence."
12. Show how, in some cases, an hypothesis is strengthened by its power to explain otherwise meaningless facts.
13. "Strictly speaking, of course, no theory can be proved by circumstantial evidence only" (p. 235). Explain.

Exercises and Problems

1. Give an illustration of convergence of evidence.
 2. Just why do scientists believe that the theory of evolution is true?
 3. In what ways is circumstantial evidence sometimes obtained from oral testimony itself?
 4. Mr. Fallon avers that Napoleon is a purely legendary character. Can he be proved to be wrong? Give reasons for your answer.
 5. In each of the following cases tell what inference, if any, can be drawn from the data presented. If in any case you believe that additional information might be readily available which would help to decide what inference can be made, tell what that information is.
1. Workmen recently unearthed near Pisa a vase containing several gold coins. Each coin bore the picture of Julius Cæsar and under it the inscription, "Julius Imperator 45 B.C."
 2. A young girl, student in a private day school in New York City, disappeared from home. No reason could be assigned for the occurrence. Only two possible clues were discovered. First, her handbag and a few clothes were missing. Second, in one of her notebooks at school was written some fifty times in what appeared to be her handwriting, a name known to none of her acquaintances, Elvira M. Wasso.
 3. Two students who were friendly to each other were in a course together. One was a superior and the other an average student. In the final examination they wrote surprisingly similar papers. The good student wrote an A paper. The average student wrote a C paper, though through the course his work had hardly been of passing grade. In the examination the two men had sat at opposite ends of a large room. The material on which they were examined was very general, it called for nothing in the way of dates, formulas, or the like.
 4. A Worcester housewife one summer gave her maid permission to be away for several days to visit friends in Portland, Maine. Some time after the maid started on her trip the

mistress received a letter from the girl, telling of the delightful time she was having in Portland. The envelope bore the Portland postmark. It also bore the legend, all but the last words of which had apparently been put on with a rubber stamp, "Received under cover from Worcester, Mass."

5. Secretary Fall received \$100,000 from his friend, Mr. Doheny. This money, in bills, was carried from New York to Washington in a suitcase, and given to Mr. Fall by the son of Mr. Doheny. When asked why, if this was simply a friendly and legitimate loan, the money was carried in this unusual way, instead of being sent by check, Mr. Doheny replied that his son would have to carry on his business later, and that he wished to accustom him to handling large sums of money.
6. There are but three firms in the United States who manufacture armor plate—Midvale, Bethlehem and Carnegie companies. Each of them is represented in the list of 19 men who, according to the official journal of the Navy League, were founders of the organization. . . . Is it not a rather peculiar coincidence that among these 19 directors who stepped forth from all the millions of the American citizens to save the Republic by advocating larger appropriations for battle-ships every armor-making concern in the United States should be represented?
7. The judge of a juvenile court was found late one afternoon in the living room of an apartment occupied by Mrs. B., a woman who was known to be a prostitute. Demand was made that he be removed from office for immorality. The judge replied by displaying a letter the postmark of which indicated that he probably received it on the day he was found in Mrs. B's apartment. The letter asked him to call at the address where he was found, saying that his presence was urgently needed by the mother of a juvenile delinquent. He said that he had in good faith gone to the address and that he had no sooner entered the place than detectives rushed in. He averred that the whole matter was a frame-up by enemies who wished to discredit his work. The reply was made that the judge had probably written the letter to himself, to have as a convenient alibi in case of discovery. It was further argued that he must have gone to the apartment with evil intent, since he could not have been ignorant of the fact that it was in a notoriously immoral district.
8. In an examination a class is asked to enumerate and explain briefly reasons for restriction of immigration. A poor student, D, is seated at the left of a fair student, C, in the classroom. On their papers both C and D give in the same order and in

much the same language, exactly the same thirteen points in favor of restriction. No such list of points was given to the class, in either reading or lecture. When questioned, C stoutly denies any knowledge of the coincidence. D asserts that he did not cheat, but is apparently evasive when asked if C copied from his paper. The teacher tells C that he is convinced that D copied from C's paper. C then becomes most vociferous in insisting that D did not cheat. He even makes a special trip to the teacher's home to reiterate his certainty that D is innocent of any wrong.

9. A member of the House of Representatives was charged by a Massachusetts man with violating the franking privilege by including a document of the National Council for the Prevention of War in the official envelope containing a reprint of a report on the naval ship building bill which he had made.

In his comments upon the matter the Representative said: "For about one week the newspapers throughout the Nation carried this story concerning the alleged misuse of my frank. This organization for the prevention of war admits it sent out to the same people about 15,000 pamphlets in a separate envelope which contained proper postage. If this organization had placed these pamphlets in my franked envelope, the same would have had to be steamed open, and it stands to reason that out of this number going to every state in the Union some one would have advised the gentleman from Massachusetts, the Post Office Department, myself, or his own Representative in Congress that he, too, had received this extraneous matter under my frank."—*National Council for Prevention of War News Bulletin*, Vol. VII, No. 6, p. 5.

6. In your reading, in attendance at meetings and in private conversations during the term, watch for significant examples of circumstantial evidence, whether noted by others or not. Clip, copy, or abstract them, and file them in your notebook. Append to each example a note telling why you believe the suggested inference to be warranted or unwarranted.

CHAPTER XI

ORAL TESTIMONY

Quiz Questions

1. Prepare an outline or summary of the chapter.
2. What are three general classes of false testimony?
3. Enumerate types of unintentional error in reporting.

4. Set forth the point of Lippmann's statement regarding the taking of testimony.

5. Enumerate ten types of good observer whose testimony is unreliable.

6. Explain the nature of suggestive questions called determinative, completely disjunctive, incompletely disjunctive, expectative, and implicative.

7. What, in general, is the degree of accuracy to be expected in answers to each kind of suggestive question?

8. State questions which need to be asked regarding a witness the worth of whose testimony is under scrutiny.

9. Describe the value and limitation of three tests of the credibility and responsibility of witnesses.

10. What value has customary veracity in establishing the responsibility of a witness?

11. Name three tests of testimony other than the reputation of the witness. State the value and limitations of each.

12. What value has the testimony of the unidentified witness? Why?

13. State three principles by which Whipple proposed to test accuracy of reports when several witnesses are available.

14. Distinguish between the narrative and the deposition. Set forth the strength and weakness of each.

15. How is it possible to get the advantages of both the narrative and the deposition in the taking of testimony?

16. What is the significance of errors detected in report?

17. Under what conditions might it be possible to get acceptable testimony from a witness who would in some cases be unsatisfactory or dishonest?

18. What is the value and what the limitation of an admission in testimony?

Exercises and Problems

1. Cite an example of testimony which was worthless because the witness was disqualified to observe by (a) physical incompetency; (b) failure to be in a proper place to observe; (c) mental immaturity; (d) permanent mental incapacity; (e) temporary mental incapacity; (f) lack of knowledge or training; (g) excitement at the time of observation; (h) prejudicing habits, unaccompanied by emotion; (i) prejudicing habits, accompanied by emotion.

2. Give cases of testimony that was worthless because a person who had probably been competent to observe became incompetent to testify by reason of (a) defective memory, and (b) failure to understand questions asked.

3. State a case in which, to your knowledge, testimony was biased by reason of suggestion in questioning. If the suggestion was in the form of the questions asked, tell the nature of those questions.

4. Set forth an example of testimony which was dishonest by reason of (a) conventionality; (b) economic interests; (c) racial interests; (d) political interests; (e) jingoism; (f) military policy; (g) religious fanaticism; (h) personal interests; (i) duress.

5. Can you give other important types of cause of false testimony?

6. Cite an example of satisfactory testimony from (a) a generally unreliable witness, and (b) a dishonest witness.

7. Ascertain the probable worth of testimony on a particular subject of some person named by your instructor.

CHAPTER XII

WRITTEN SOURCES

Quiz Questions

1. Prepare an outline or summary of the chapter.
2. Distinguish between primary and secondary sources.
3. What are the limitations of secondary sources? Why?
4. When is it permissible to use secondary sources and when advisable to use primary?
5. Why does resort to primary sources not insure freedom from error?
6. What is external or textual criticism? In what two ways is it carried on?
7. Define and explain internal criticism.
8. Why is internal criticism often very poorly done?
9. What is to be said of the probable reliability of report of (a) an individual government official; (b) a government bureau; (c) a commission of special inquiry; (d) a government scientific bureau?

10. How can you decide to what extent this book makes a fair statement of facts?

11. Explain the relation to newspaper inaccuracy of (a) poor observation; (b) anticipating the news; (c) carelessness in handling material.

12. Set forth the filters through which a peace-time news story of foreign origin has to pass on its way from its source to the American newspaper reader.

13. What influence is exerted on the press by (a) the advertiser; (b) class bias on the part of the editor; (c) social interests and ambitions; (d) desire to please the readers?

Exercises and Problems

1. Is a copy of the *New York Times* for May 7, 1889, a primary or a secondary source? Give reasons for your answer.

2. How can we determine whether or not the "Commentaries on the Gallic War" were written by such a person as Julius Cæsar, and at the time alleged?

3. Mrs. Carrie Chapman Catt reported, in *The Woman Citizen* of July, 1927 (pp. 10-12+), that the Daughters of the American Revolution were circulating literature in which it was falsely alleged that the Women's International League for Peace and Freedom, whose president was Jane Addams, was either a Communist organization or was being duped by the Communists.

(a) Under what circumstances would you think it worth while for you to verify the truth of the report?

(b) Until one has verified the story what should be his attitude toward it?

(c) In this case what is the scientific method of external criticism? Of internal criticism?

4. Read carefully the article by Jerome Davis, "Finding the Truth on Current Issues," *Social Forces*, Vol. IV (June, 1926), pp. 729-736.

5. Look over the current issue of a number of the magazines listed by Professor Davis with which you are acquainted little or not at all. Spend enough time with each to get a fair impression of the periodical. Be prepared to state, with reasons, your impressions of each.

6. Illustrate the following classes of publication, in each case giving reasons for your choice:

- (a) A scientific periodical which exists primarily for the dissemination of knowledge
- (b) An irresponsible propagandist periodical
- (c) A periodical whose propaganda is for the truth
- (d) A relatively irresponsible newspaper
- (e) A relatively responsible newspaper

7. Cite, giving reasons for your selection, miscellaneous documents which you are inclined to consider (a) reliable sources of information; (b) unreliable sources of information.

8. Give an illustration of truth obtained indirectly from a newspaper which can not in general be trusted.

9. Give an example of eloquent silence in some source of information.

10. David Lewis, a recent college graduate, who has gone into business, while a student became much interested in social problems. In the limited time now at his disposal he wants to get the whole truth, as nearly as may be, regarding current events, and especially regarding controversial matters. He reads regularly the *Chicago Tribune*, the *Saturday Evening Post*, the *Literary Digest* and the *Nation's Business*. Will he attain his end by this method? Reasons.

11. Being doubtful regarding his choice, Mr. Lewis asks you to suggest a list for him. He expects to have not over ten hours per week for non-professional serious reading. What newspapers and magazines do you recommend? Why?

12. With the aid of the *Book Review Digest* and the reviews which it cites report on the esteem placed by critics on some book named by your instructor.

13. Do your best to submit the following quotations to thorough external criticism (Is the statement what it purports to be?) and internal criticism (Is what it says true?). This will necessitate consulting sources, to make sure that the quotation is correct, and then applying various tests of accuracy to the statements.

Write out a statement of how you make your tests, the reasons for your choice of method, and the conclusions which you reach.

1. . . . The New York *Times* has gone Bolshevik. At least its subsidiary *Current History* has. Eighty-four pages of the last issue are devoted to Russia. That fact in itself is sufficient to create suspicion. This number contains articles by Bolsheviks in defense of their wickedness. Then there are long eulogies by renegade Americans. High praise is given to many

of the communist leaders for their ability and devotion. Statistics are quoted showing steady economic advancement during the past five years. Of course, there are a number of articles by writers who are hostile to the Bolsheviks, but these are doubtless a mere smoke screen. The situation is really serious. Remember that this periodical is found in all the leading libraries. It can be bought at any newsstand. The youth of the land are certain to be contaminated. Henceforth the editor of *Current History* will be under surveillance, and it may be discovered that his salary comes straight from Moscow.—Editorial, *World To-morrow*, Vol. X (December, 1927), p. 487.

2. To the Most High and Mighty Prince JAMES, by the Grace of God, King of Great Britain, France, and Ireland, Defender of the Faith, etc., the Translators of the Bible wish Grace, Mercy, and Peace, through JESUS CHRIST, our Lord.

Great and manifold were the blessings, most dread Sovereign, which Almighty God, the Father of all mercies, bestowed upon us the people of England, when first he sent Your Majesty's Royal Person to rule and reign over us. For whereas it was the expectation of many, who wished not well unto our Sion, that upon the setting of that bright Occidental Star, Queen Elizabeth of most happy memory, some thick and palpable clouds of darkness would so have overshadowed this Land, that men should have been in doubt which way they were to walk; and that it should hardly be known, who was to direct the unsettled State; the appearance of Your Majesty, as of the Sun in his strength, instantly dispelled those supposed and surmised mists, and gave unto all that were well affected exceeding cause of comfort; especially when we beheld the Government established in Your Highness, and Your Hopeful Seed, by an undoubted Title, and this also accompanied with peace and tranquillity at home and abroad.—Epistle Dedicatory of the so-called "King James Version" of the Holy Bible.

3. . . . On April 3, 1898, Woodford [American ambassador to Spain] sent this message to President McKinley:

"The Spanish Minister for Foreign Affairs assures me that Spain will go as far and as fast as she can. I know that the Queen and her present ministry sincerely desire peace, and that the Spanish people desire peace, and if you can still give me time and reasonable liberty of action, I am sure that before next October 1st, I will get peace in Cuba."

Again on April 10, the day before our declaration of war, Woodford notified our Department of State that before August 1, he could secure autonomy for Cuba, or a recognition

of its independence by Spain or a cession of the island to the United States. He then added: "I hope that nothing will be done to humiliate Spain, as I am satisfied the present government is going, and is loyally ready to go, as fast and as far as it can." It was an open secret that Spain would give up or sell Cuba as soon as she could.

One cannot read the Woodford dispatches and fail to see that the Spanish-American War was thrust upon Spain by our jingo press.—C. H. Hamlin, *The War Myth in United States History* (Vanguard Press, New York, 1927), p. 73.

4. "Again, you quote [*Atlantic Monthly*, 139:540-549] from the *Catholic Encyclopedia* that my Church 'regards dogmatic intolerance, not alone as her incontestable right, but as her sacred duty.' And you say that these words show that Catholics are taught to be politically, socially, and intellectually intolerant of all other people. If you had read the whole of that article in the *Catholic Encyclopedia*, you would know that the real meaning of these words is that for Catholics alone the Church recognizes no deviation from complete acceptance of its dogma. These words are used in a chapter dealing with that subject only. The very same article in another chapter dealing with toleration toward non-Catholics contains these words: 'The intolerant man is avoided as much as possible by every high-minded person. . . . The man who is tolerant in every emergency is alone lovable.' The phrase 'dogmatic intolerance' does not mean that Catholics are to be dogmatically intolerant of other people, but merely that inside the Catholic Church they are to be intolerant of any variance from the dogma of the Church."—Hon. Alfred E. Smith, "Catholic and Patriot: Governor Smith Replies," *Atlantic Monthly*, Vol. CXXXIX (May, 1927), pp. 723-724.
5. Celestino F. Madeiros, a young Portuguese with a bad criminal record, was in 1925 confined in the same prison with Sacco. On November 18, while his appeal from a conviction of murder committed in an attempt at bank robbery was pending in the Supreme Court, he sent to Sacco through a jail messenger the following note:—

I hear by confess to being in the South Braintree shoe company crime and Sacco and Vanzetti was not in said crime.

CELESTINO F. MADEIROS.

- Felix Frankfurter, *The Case of Sacco and Vanzetti* (Little, Brown, and Company, Boston, 1927), p. 92. Also in the *Atlantic Monthly*, Vol. CXXXIX (March, 1927), p. 428.
6. The documents most frequently mentioned by those who are

interested in the theory of Jewish World Power rather than in the actual operation of that power in the world to-day, are those 24 documents known as "The Protocols of the Learned Elders of Zion."

Who it was that first entitled these documents with the name of the "Elders of Zion" is not known. It would be possible without serious mutilation of the documents to remove all hint of Jewish authorship, and yet retain all the main points of the most comprehensive program for world subjugation that has ever come to public knowledge.

Yet it must be said that thus to eliminate all hint of Jewish authorship would be to bring out a number of contradictions which do not exist in the Protocols in their present form. The purpose of the plan revealed in the Protocols is to undermine all authority in order that a new authority in the form of autocracy may be set up. Such a plan could not emanate from a ruling class which already possessed authority, although it might emanate from anarchists. But anarchists do not avow autocracy as the ultimate condition they seek.

In their present form, which bears evidence of being their original form, there is no contradiction. The allegation of Jewish authorship seems essential to the consistency of the plan.

If these documents were the forgeries which Jewish apologists claim them to be, the forgers would probably have taken pains to make Jewish authorship so clear that their anti-Semitic purpose could easily have been detected. But only twice is the term "Jew" used in them. After one has read much further than the average reader usually cares to go into such matters, one comes upon the plans for the establishment of the World Autocrat, and only then it is made clear of what lineage he is to be.

But all through the documents there is left no doubt as to the people against whom the plan is aimed. It is not aimed against aristocracy as such. It is not aimed against capital as such. It is not aimed against government as such. Very definite provisions are made for the enlistment of aristocracy, capital and government for the execution of the plan. It is aimed against the people of the world who are called "Gentiles." It is the frequent mention of "Gentiles" that really decides the purpose of the documents.—*The International Jew, the World's Foremost Problem*, being a reprint of a series of articles appearing in the *Dearborn Independent* from May 22 to October 2, 1920 (The Dearborn Publishing Company, Dearborn, Michigan, 1920), Vol. I, pp. 109-110, *passim*.

14. In your reading through the term, watch for statements in newspapers, magazines and conversations which show that earlier reports were false. Clip, copy or abstract these reports, together, if possible, with the text or an abstract of the original article. File in your notebook, together with a brief statement of the apparent cause of the error in the first report.

CHAPTER XIII

DISHONEST PROPAGANDA

Quiz Questions

1. Prepare an outline or summary of the chapter.
2. Define dishonest propaganda.
3. Why is it socially dangerous for the press to misinform the people?
4. Distinguish dishonest propaganda regarding facts in general from dishonest propaganda regarding sources of information.
5. Enumerate important groups responsible for dishonest propaganda.
6. What are some of the general methods of the dishonest propagandist?
7. List a number of the vehicles by which dishonest propaganda is carried on and explain how each works or is worked.
8. Describe a number of things which the individual can do to protect himself against dishonest propaganda.
9. By what means can one learn of the reliability of a newspaper or magazine?
10. How can we test the probable truth of particular news stories which we read?
11. Tell of six aids against dishonest propaganda which depend upon group action.

Exercises and Problems

1. Give a present-day illustration of honest and another of dishonest propaganda. Are you sure that your classification is correct?
2. Illustrate from history, preferably recent, the harmfulness of dishonest propaganda.
3. Cite a case in which you find it difficult to decide whether propaganda is honest or dishonest. Are such cases rare or common? Give reasons for your answer.

4. Cite an example of what you believe to be dishonest propaganda which consisted in disseminating false impressions regarding sources of information or of ideas by (a) concealing personal motives; (b) dissembling sources of ideas; (c) maligning the motives of others.

5. Cite, with reasons for your assertion, an example of apparently dishonest propaganda by (a) government officials; (b) business interests; (c) religious groups; (d) political parties.

6. Illustrate what seems to be dishonest propaganda by means of (a) exaggeration or minimization; (b) giving disproportionate attention to particular phases of a subject; (c) suppression; (d) denying falsely; (e) asserting falsely.

7. Search your memory and look in your reading for examples of apparently dishonest propaganda through (a) speeches; (b) personal pressure; (c) private press bureaus; (d) censorship; (e) governmental press bureaus; (f) publicity companies; (g) misuse of reputable institutions; (h) posters; (i) motion pictures; (j) the radio; (k) company papers; (l) photographs.

8. Give cases of what you believe to be dishonest newspaper propaganda in which the method used was that of (a) lying; (b) offering opinions as facts; (c) camouflaging advertisements as news; (d) unfair cartoons; (e) improper treatment of the news with regard to (1) amount of space given a subject, (2) position, (3) headlines, (4) choice of words, (5) removal of a story from its context; (f) attacks on opponents; (g) suppression of opponents.

9. Cite a well-known case of the use of a book for what seems to you to be dishonest propaganda.

10. Give illustrations of what seems to be dishonest propaganda by the use of the casual slur.

11. Do you know cases of the use of comic pictures for this purpose?

12. Describe any field demonstration which you have strong reason to believe was used for dishonest propaganda.

13. Is the layman who supports and retains membership in a religious organization whose creed he privately rejects a dishonest propagandist? Give reasons for your answer.

14. In cases where you can not recall an example of one of the kinds of dishonest propaganda named in the foregoing questions, watch for illustrations of it in your reading throughout the term. When you find a case make a full note of it, including

citation of source, so that you can present it to the class when the subject is called up again.

CHAPTER XIV

A COÖPERATIVE TECHNIQUE FOR SOLVING SOCIAL PROBLEMS

Quiz Questions

1. Prepare an outline or summary of the chapter.
2. Tell in the case of some important social problem, *e.g.*, Philippine independence, why the problem can not be adequately solved by the method of force, coercive law, debate and decision or compromise.
3. Explain the purpose underlying the questions in each of the four parts of the Pattern Discussion Outline.
4. By what arrangement is Japanese immigration to the United States now regulated? Compare this arrangement with the Gentlemen's Agreement as an adequate solution of the problem.

Exercises and Problems

Following the Pattern Discussion Outline, work out a plan for solving the problem embodied in one or more of the following situations. In each case write out your answer, point by point.

1. The students of Wendell College want to be free to be absent from class whenever they please, without formal penalty. The college faculty thinks it best to have a "cut system," with penalty for much unexcused absence.
2. The shopmen of the C. & D. Railroad organize and demand recognition of their union. They assert that only in this manner can they obtain satisfactory working conditions and adequate wages. The officials of the railroad refuse to recognize the union. They declare that union members do less work, demand more pay and make more numerous and more unreasonable complaints than do unorganized workers.
3. The nations of the world wish to have the production of opium limited to the amount necessary for legitimate medical and scientific purposes. The government of Persia, an important producing country, says that it can not consent to cut down acreage just now. If this were done it would deprive many Persians of their livelihood. The Persian government avers, moreover, that it will not be easy to substitute the cultivation of more bulky crops, because Persia lacks railroads and highways over which goods can be carried to market easily.

4. There is a growing feeling among Harvard men—students, instructors, alumni—that the number of Jewish students in the college is becoming undesirably large. This feeling doubtless represents: (1) the natural dislike with which the predominating “Anglo-Saxon” clientele of the college finds itself penetrated by a distinct ethnic group; (2) the special prejudice which “society” bears against Jews. The non-Jewish majority sees reason to fear that the social reputation of the college may become affected in a way to cause a falling-off of “Anglo-Saxon” students.

The Jewish population of America is massed within a few urban centers. Harvard falls within this “zone of Jewish pressure,” and by its open-door policy towards all qualified comers has naturally drawn a large quota of Jewish students. The effect, as it appears at Harvard, is to accentuate an unpleasant race-consciousness on both sides; so that the Jewish students feel themselves discriminated against, and non-Jewish students are constantly uneasy lest any judgments of theirs resulting in social or competitive disadvantage to Jews be imputed to prejudice.

The Jewish partisans feel the prejudice to be something that touches their self-respect and are inclined to treat it moralistically, as an intolerance to be torn out of Gentile hearts. “The Jew,” they say, “is a problem only to those who make him so. We are all Americans: Harvard is an American college. To discuss a proposal for special treatment for any group at Harvard is to repudiate Americanism.”—A. D. Sheffield, *A Co-operative Technique for Conflict* (The Inquiry, New York, 1924), pp. 22-23, adapted.

5. Members of a marketing association, in alarming numbers, had been selling their crops to outside distributors, in violation of their contract with the coöperative. The executive group, therefore, were faced with a situation. The coöperative could not keep up a stable market for its commodity, if its members failed to pool their crops under its control. On the other hand, it seemed a sorry business to enforce co-operation by suing the contract-breakers. The executives, when they came together, found they had marked differences of mind about the dilemma. Some were for sending out lawyers to start sweeping prosecutions. They urged the need of assuring the control of the balance of the crop; also the need of getting the contract respected. Others opposed this step. They pointed to the farmer’s need of ready cash—which in many cases almost excused the default; also the capital which enemies would make of the lawsuits as showing

the low morale in the association.—A. D. Sheffield, *Creative Discussion* (The Inquiry, New York, 1926), p. 4.

SUMMARY

Quiz Questions

Set forth in logical series the chief precautions to be taken and principles to be observed by one who wishes to avoid errors connected with each of the following pitfalls or methods:

- | | |
|----------------------------|-----------------------------|
| 1. Prejudice | 9. The method of difference |
| 2. Observation | 10. Analogy |
| 3. Deduction | 11. Assumptions |
| 4. Definition | 12. Hypotheses |
| 5. Classification | 13. Circumstantial evidence |
| 6. Sampling | 14. Oral testimony |
| 7. Correlation | 15. Written sources |
| 8. The method of agreement | 16. Dishonest propaganda |

Exercises and Problems

Name and appraise the validity of the logical method used in making each of the following inferences, presented in the foregoing pages:

1. Mary E. Splaine's testimony was untrue (pp. 237-239).
2. The witness examined by Erskine was unbalanced (p. 245).
3. Loud noises caused Albert to fear the white rat (pp. 14-16).
4. The French press was bribed by the Russian government (pp. 312-315).
5. The charge which the *Masses* made against the Associated Press was true (pp. 334-335).
6. Association with pleasure removed Peter's fear of the rabbit (pp. 57-59).
7. The confession of General Charteris was true (p. 351).
8. Bumble-bees are necessary for the fertilization of clover (p. 212).
9. Some ships of the Baltic Fleet fired upon others of the same group (pp. 105-107).
10. In publishing the forgeries as to the *Nation*, Mr. Hearst was guilty of dishonest propaganda (pp. 272-274).
11. The State Department has used the press for dishonest propaganda (pp. 332-333).
12. Pleasant association with Negroes removed the prejudice of Captain G. (pp. 47-50).

BIBLIOGRAPHY AND SUPPLEMENTARY READINGS

Titles designated by a star are especially recommended for first supplementary reading.

CHAPTER I. THE ART OF STRAIGHT THINKING

Books

- ALLEN, William, H.—*Universal Training for Citizenship and Public Service* (The Macmillan Company, New York, 1917), pp. 44-56.
- ANGELL, Norman.—*Public Mind; Its Disorders, Its Exploitation* (E. P. Dutton and Company, New York, 1927).
- BORAAS, Julius.—*Teaching to Think* (The Macmillan Company, New York, 1922).
- DIMNET, Ernest.—*The Art of Thinking* (Simon and Schuster, New York, 1928).
- FINNEY, ROSS L.—*A Sociological Philosophy of Education* (The Macmillan Company, New York, 1928), Chaps. III, XVII, XIX.
- *GAYLEY, Charles Mills.—*Idols of Education* (Doubleday, Page and Company, New York, 1910), Chap. III. Also quoted in KAUFMAN, Paul, *Points of View for College Students* (Doubleday, Page and Company, New York, 1926), pp. 37-51.
- HAZLITT, Henry.—*Thinking as a Science* (E. P. Dutton and Company, New York, 1916).
- *LANGDON-DAVIES, John.—*The New Age of Faith* (The Viking Press, New York, 1925), Introduction.
- LEWIS, Wyndham.—*The Art of Being Ruled* (Harper and Brothers, New York, 1926).
- LIPPMANN, Walter.—*The Phantom Public* (The Macmillan Company, New York, 1927).
- MARTIN, Everett Dean.—*The Behavior of Crowds* (Harper and Brothers, New York, 1920), Chap. X. Also quoted in KAUFMAN, Paul, *Points of View for College Students* (Doubleday, Page and Company, New York, 1926), pp. 68-86.
- MONTAGUE, William Pepperell.—*The Ways of Knowing* (The Macmillan Company, New York, 1925), Chap. I.

- ROBINSON, James Harvey.—*The Mind in the Making* (Harper and Brothers, New York, 1921).
- The Humanizing of Knowledge* (George H. Doran Company, New York, 1923).
- *SCHOPENHAUER, Arthur.—“Thinking for Oneself,” from *Parerga und Paralipomena* (Berlin, 1851), translated as *Chips and Scraps*. Quoted in KAUFMAN, Paul, *Points of View for College Students* (Doubleday, Page and Company, New York, 1926), pp. 19-31.
- *SPENCER, Herbert.—*The Study of Sociology* (D. Appleton and Company, New York, 1873), Chaps. I-XII.
- *WELLS, H. G.—*The Salvaging of Civilization* (The Macmillan Company, New York, 1921).

Periodicals

- AUSTIN, Mary.—“The Need for a New Social Concept,” *New Republic*, Vol. XXXI (Aug. 9, 1922), pp. 298-302.
- *DEWEY, John, “Science, Belief and the Public,” *New Republic*, Vol. XXXVIII (April 2, 1924), pp. 143-145.
- FOSTER, William T.—“Vicarious Thinking,” *Nation*, Vol. CI (Nov. 11, 1915), pp. 566-567.
- JORDAN, H. W.—“Crowds and Their Manners,” *Journal of Industrial and Engineering Chemistry*, Vol. XIII (June, 1921), p. 566. Quoted in *Literary Digest*, Vol. LXX (Aug. 27, 1921), p. 22.
- MCCULLOCH, Rhoda E.—“Education, not Propaganda,” *World Tomorrow*, Vol. X (April, 1927), pp. 165-167.
- *MILLER, Dickinson S.—“Democracy and Our Intellectual Plight,” *New Republic*, Vol. XXXI (June 21, 1922), pp. 93-97.
- *———“Intelligence in Our Times,” *New Republic*, Vol. XLIV (Oct. 21, 1925), pp. 221-224.
- NELSON, Frederic.—“The Dancing Bear,” *New Republic*, Vol. XLIII (May 27, 1925), pp. 15-16.
- OGBURN, William F.—“Methods of Direct Legislation in Oregon,” *Publications of the American Statistical Association*, Vol. XIV (June, 1914), pp. 136-155.
- OVERSTREET, H. A.—“Minds for Tomorrow,” *World Tomorrow*, Vol. VI (June, 1923), pp. 184-186.

Editorials

- “Floored,” *New Republic*, Vol. IV (Aug. 14, 1915), pp. 34-35.
- “Popular Discussion,” *New Republic*, Vol. IV (Aug. 14, 1915), pp. 35-36.
- “The Undergraduate,” *New Republic*, Vol. IV (Sept. 25, 1915), pp. 197-198.
- “Progressivism vs. Democracy,” *New Republic*, Vol. XLIII (May 27, 1925), pp. 5-7.

CHAPTER II. CAUSES OF PREJUDICE

Books and Pamphlets

- *ASSOCIATION for Peace Education.—*An Analysis of the Emphasis upon War in Our Elementary School Histories* (Association for Peace Education, 5733 Blackstone Ave., Chicago, 1923?).
- BROOKS, John Graham.—*As Others See Us* (The Macmillan Company, New York, 1908).
- BURGESS, Gelett.—*Are You a Bromide?* (The Viking Press, New York, 1906).
- DRAPER, John William.—*History of the Conflict between Religion and Science* (D. Appleton and Company, New York, 1875).
- *KENDIG-GILL, Isabelle.—*War and Peace in United States History Textbooks* (National Council for the Prevention of War, n.d.).
- LECKY, William Edward Hartpole.—*History of the Rise and Influence of the Spirit of Rationalism in Europe*, 2 vols. (D. Appleton and Company, New York, 1914).
- *LIPPMANN, Walter.—*Public Opinion* (The Macmillan Company, New York, 1927).
- LUMLEY, Frederick Elmore.—*Means of Social Control* (The Century Company, New York, 1925), Chaps. VII, XII.
- MENCKEN, H. L.—*Prejudices* (Alfred A. Knopf, New York). First Series, 1919; Second Series, 1920; Third Series, 1922; Fourth Series, 1924; Fifth Series, 1926; Sixth Series, 1927.
- *SPENCER, Herbert.—*The Study of Sociology* (D. Appleton and Company, New York, 1873), Chaps. VI-XII.
- *TAFT, Donald R.—*Historical Textbooks and International Differences* (Association for Peace Education, 5733 Blackstone Ave., Chicago, n.d.).
- History Text-books as Provocatives of War* (American Peace Society, Washington, 1925).
- VAN LOON, Hendrik Willem.—*Tolerance* (Boni and Liveright, New York, 1925).
- WHITE, ANDREW D.—*History of the Warfare of Science with Theology in Christendom*, 2 vols. (D. Appleton and Company, New York, 1896).
- WISTER, Owen.—*A Straight Deal; or, The Ancient Grudge* (The Macmillan Company, New York, 1920).
- WOLFE, A. B.—*Conservatism, Radicalism, and Scientific Method* (The Macmillan Company, New York, 1923).

Periodicals

- *ADAMS, James Truslow.—“History and the Lower Criticism,” *Atlantic Monthly*, Vol. CXXXII (September, 1923), pp. 308-317.

- ALLEN, Devere.—"The Mind in the Unmaking," *World Tomorrow*, Vol. VI (June, 1923), pp. 178-182.
- B.B.—"Bebe Is Saved!" *New Republic*, Vol. XLV (Feb. 17, 1926), pp. 352-353.
- *DUFFUS, Robert L.—"Where Do We Get Our Prejudices?" *Harper's Magazine*, Vol. CLIII (September, 1926), pp. 503-508.
- GALE, Zona.—"You Can't Believe All You Hear," *World Tomorrow*, Vol. VI (June, 1923), pp. 174-175.
- MANDEVILLE, Ernest W.—"Gutter Literature," *New Republic*, Vol. XLV (Feb. 17, 1926), pp. 350-352.
- MERZ, Charles.—"What Makes a First-Page Story," *New Republic*, Vol. XLV (Dec. 30, 1925), pp. 156-158.
- "The Big News of 1926," *New Republic*, Vol. XLIX (Jan. 12, 1927), pp. 213-215.
- OGBURN, William Fielding.—"Bias, Psychoanalysis and the Subjective in Relation to the Social Sciences," *Publications of the American Sociological Society*, Vol. XVII (1922), pp. 62-74.
- *OVERSTREET, H. A.—"Reason and the 'Fight Image,'" *New Republic*, Vol. XXXIII (Dec. 20, 1922), pp. 94-97.
- SWERLING, Jo.—"The Picture Papers Win," *Nation*, Vol. CXXI (Oct. 21, 1925), pp. 455-458.
- *TAFT, Donald R.—"Historical Textbooks and International Differences," *Progressive Education*, Vol. II (April, May, June, 1925), pp. 92-96.
- VILLARD, Oswald Garrison.—"Sex, Art, Truth and Magazines," *Atlantic Monthly*, Vol. CXXXVII (March, 1926), pp. 388-398.
- WOOD, Charles W.—"Newspaper News," *World Tomorrow*, Vol. VI (June, 1923), pp. 172-174.
- YOUNG, Stark.—"Bruised Patriots," *New Republic*, Vol. XXIII (Aug. 18, 1920), pp. 331-333.

Editorial

- "Bed-time War Stories," *New Republic*, Vol. XLIX (Jan. 5, 1927), pp. 178-179.

CHAPTER III. CURES AND PREVENTIVES OF PREJUDICE

Books

- Commission on International Relations of the National Conference on the Christian Way of Life.—*International Problems and the Christian Way of Life* (Association Press, New York, 1923).
- DAVIS, Jerome, and CHAMBERLIN, Roy B.—*Christian Fellowship among the Nations* (Pilgrim Press, New York, 1925).
- ELLIOTT, Harrison Sacket.—*The Why and How of Group Discussion* (Association Press, New York, 1923).

- HOGG, Elizabeth.—*La Eksperimento de Eccles* (Brita Esperantista Asocio, London, 1921).
- *LASKER, Bruno.—*All Colors* (The Inquiry, New York, 1926).
- *———*What Makes Up My Mind on International Questions?* (The Inquiry, New York, 1926).
- *LASKER, Bruno, ed.,—*And Who Is My Neighbor?* (The Inquiry, New York, 1924).
- League of Nations.—*Esperanto as an International Auxiliary Language*, Report of the General Secretariat Adopted by the Third Assembly, 1922.
- LEITCH, John.—*Man to Man* (B. C. Forbes Company, New York, 1919).
- *PAGE, Kirby.—*A National Peace Department* (Council of Christian Associations, Student Department, Y.W.C.A., 600 Lexington Ave., New York, 1926?).
- SHEFFIELD, A. D.—*A Co-operative Technique for Conflict* (Preliminary Edition, National Conference on the Christian Way of Life, New York, 1924).
- *———*Creative Discussion* (The Inquiry, New York, 1926).
- *TAFT, Donald R.—*Historical Textbooks and International Differences* (Association for Peace Education, Chicago, n.d.).
- TROTTER, William.—*Instincts of the Herd in Peace and War* (The Macmillan Company, New York, 1926).

Periodicals

- *ATKINS, Blanche E.—“Geography: for Peace or War?” *Journal of the National Education Association*, Vol. XIV (May, 1925), pp. 143-146.
- BARNES, Harry E.—“The Need of More Accurate and Vital Historical Writing in Our Textbooks,” *Humanity*, Vol. I (November, December, 1924), pp. 401-405.
- “The New History and International Understanding,” *Progressive Education*, Vol. II (April, May, June, 1925), pp. 72-76.
- *COLLINS, George L.—“How Race Prejudice Is Overcome,” *World Tomorrow*, Vol. XI (October, 1928), pp. 410-412.
- DUNN, Arthur W.—“Education for World Understanding through the Junior Red Cross,” *Progressive Education*, Vol. II (April, May, June, 1925), pp. 88-91.
- *GRUENBERG, Sidonie Matsner.—“Twigs of Prejudice: How They Are Bent—and Unbent—in Childhood,” *Survey Graphic*, Vol. LVI (September, 1926), pp. 586-588.
- JORDAN, David Starr.—“Peace Plan of the World Federation,” *Journal of the National Education Association*, Vol. XIV (February, 1925), pp. 45-50.

- OVERSTREET, Harry A.—"Forming First Habits for Internationalism," *Progressive Education*, Vol. II (April, May, June, 1925), pp. 68-71.
- SMITH, J. Russell.—"Geography and the Higher Citizenship," *Progressive Education*, Vol. II (April, May, June, 1925), pp. 77-80.
- VAN LOON, Hendrik Willem.—"History, the Truth and the Child," *Children*, Vol. I (November, 1926), pp. 8-10.

Editorial

- "World Goodwill Day," *Journal of the National Education Association*, Vol. XIV (May, 1925), p. 148.

PREJUDICE AS TREATED IN THE NOVEL AND THE DRAMA

- *BENNETT, Arnold, and KNOBLAUCH, Edward.—*Milestones* (George H. Doran Company, New York, 1912).
- CHESNUTT, Charles W.—*The Colonel's Dream* (Doubleday, Page and Company, New York, 1905).
- The Marrow of Tradition* (Houghton Mifflin Company, Boston, 1901).
- *FRANCIS, John Oswald.—*Change* (Doubleday, Page and Company, New York, 1914).
- PITKIN, Walter B., ed.—*As We Are* (Harcourt, Brace and Company, New York, 1923).
- SHELDON, Charles M.—*Of One Blood* (Small, Maynard and Company, Boston, 1916).
- *STEINER, Edward A.—*Sanctus, Spiritus & Company* (George H. Doran Company, New York, 1919).

CHAPTERS IV, VII AND X. DEDUCTIVE LOGIC; MILL'S EXPERIMENTAL METHODS; CIRCUMSTANTIAL EVIDENCE AND PROOF OF HYPOTHESES

Books

- *Columbia Associates in Philosophy.—*An Introduction to Reflective Thinking* (Houghton Mifflin Company, Boston, 1923).
- CREIGHTON, James Edwin.—*An Introductory Logic*, 4th ed. (The Macmillan Company, New York, 1920).
- *DOTTERER, Ray H.—*Beginner's Logic* (The Macmillan Company, New York, 1924).
- MILL, John Stuart.—*A System of Logic*, many editions.
- MONTAGUE, William Pepperell.—*The Ways of Knowing* (The Macmillan Company, New York, 1925), pp. 93-105.
- *ROBINSON, Daniel Sommer.—*Illustrations of the Methods of Reasoning* (D. Appleton and Company, New York, 1927), Chaps. I, V, VIII.

SELLARS, R. W.—*The Essentials of Logic*, rev. ed. (Houghton Mifflin Company, Boston, 1925).

- *WIGMORE, John Henry.—*Principles of Judicial Proof, as Given by Logic, Psychology and General Experience, and Illustrated in Judicial Trials* (Little, Brown and Company, Boston, 1913).

Editorials

"How a Mild Professor Outwitted the Desperate 'Dynamite Twins,'" *Literary Digest*, Vol. XCIV, No. 9 (Aug. 27, 1927), p. 52.

"To Err is Human," *Nation*, Vol. CXXV (Dec. 7, 1927), p. 620.

"The Case of Anastasia," *Nation*, Vol. CXXVI (Feb. 22, 1928), pp. 206-207.

The following series of controversial communications to the *New Republic* should be read in the order given:

BECK, James M.—"The Spirit of Lawlessness," Vol. XXVIII (Oct. 12, 1921), pp. 189-190.

FRANKFURTER, Felix—"A Reply to Mr. Beck," Vol. XXVIII (Oct. 19, 1921), pp. 218-219.

BECK, James M.—"A Reply to Mr. Frankfurter," Vol. XXIX (Jan. 18, 1922), pp. 212-214.

FRANKFURTER, Felix—"In Answer to Mr. Beck," Vol. XXIX (Jan. 18, 1922), pp. 215-221.

ARNOLD, G. S.—"Mr. Arnold Corroborates Mr. Frankfurter," Vol. XXIX (Jan. 18, 1922), pp. 221-222.

CHAPTER V. OBSERVATION

Books

HADDOCK, Frank Channing.—*Power of Will*, 45th ed. (The Pelton Publishing Co., Meriden, Connecticut, 1915), Chaps. IX-XIII.

- *LIPPMANN, Walter.—*Public Opinion* (The Macmillan Company, New York, 1927), Part III, "Stereotypes."

- *MÜNSTERBERG, Hugo.—*On the Witness Stand* (Doubleday, Page and Company, New York, 1908).

SELLARS, R. W.—*The Essentials of Logic*, revised. (Houghton Mifflin Company, Boston, 1925), Chap. XVI.

- *SHALER, Nathaniel Southgate.—*The Autobiography of Nathaniel Southgate Shaler* (Houghton Mifflin Company, Boston, 1909), pp. 97-100. Also quoted in KAUFMAN, Paul, *Points of View for College Students* (Doubleday, Page and Company, New York, 1926), "How Agassiz Taught Me to See," pp. 225-228.

STRONG, T. B., ed.—*Lectures on the Method of Science* (The Clarendon Press, Oxford, 1906); GOTCH, F., "On Some Aspects of the Scientific Method," pp. 25-58; WELDON, W. F. R., "Inheritance in Plants and Animals," pp. 81-109.

CHAPTER VI. DEFINITION, CLASSIFICATION, AND STATISTICS

Books

- *BOWLEY, Arthur L.—*An Elementary Manual of Statistics* (Charles Scribner's Sons, New York, 1915), Chap. VII, "Sampling"; Chap. VIII, "Rules for Using Published Statistics."
- CHADDOCK, Robert Emmet.—*Principles and Methods of Statistics* (Houghton Mifflin Company, Boston, 1925), Chap. II, "Misuses of Statistical Data"; Chap. III, "Statistics in the Service of Science"; Chap. IV, "Classification of Statistical Data"; Chap. XII, "Discovery and Measurement of Relationships—Correlation"; Chap. XIV, "Collection of Statistical Data"; Chap. XVI, "Graphic Presentation."
- KING, Wilford I.—*The Elements of Statistical Method* (The Macmillan Company, New York, 1916), Chap. III, "Uses, Characteristics and Sources of Statistics"; Chap. XVII, "Correlation."
- *ROBINSON, Daniel Sommer.—*Illustrations of the Methods of Reasoning* (D. Appleton and Company, New York, 1927), Chap. II, "Classification"; Chap. III, "The Method of Sampling"; Chap. IV, "Statistics."
- WESTAWAY, F. W.—*Scientific Method, Its Philosophy and Its Practice* (Blackie and Son, Limited, London, 1912), Chap. XVIII, "Classification."

CHAPTER VII. MILL'S EXPERIMENTAL METHODS

See bibliography for Chapter IV.

CHAPTER VIII. ANALOGY AND THE COMPARATIVE METHOD

Books

- GOLDENWEISER, Alexander A.—*Early Civilization* (Alfred A. Knopf, New York, 1922), "Diffusion versus Independent Development in Early Civilization," pp. 301-324.
- *ROBINSON, Daniel Sommer.—*Illustrations of the Methods of Reasoning* (D. Appleton and Company, New York, 1927), Chap. VI, "Analogy and Circumstantial Evidence," and Chap. IX, "The Historical Method."
- ROBINSON, James Harvey.—*The New History, Essays Illustrating the Modern Historical Outlook* (The Macmillan Company, New York, 1912).
- THOMAS, William I.—*Source Book for Social Origins* (Thomas Badger, Chicago, 1909), "Introductory," pp. 3-20.

CHAPTER IX. ASSUMPTIONS AND HYPOTHESES

Books

- DOTTERER, R. H.—*Beginners' Logic* (The Macmillan Company, New York, 1924), Chap. VIII.
- JAMES, William.—*Some Problems of Philosophy* (Longmans, Green and Company, New York, 1911), "Faith and the Right to Believe," pp. 221-231.
- *The Will to Believe and Other Essays in Popular Philosophy* (Longmans, Green and Company, New York, 1912), "The Will to Believe," pp. 1-31.
- *HUXLEY, Thomas Henry.—*Collected Essays*, "The Method of Scientific Investigation," quoted in KAUFMAN, Paul, *Points of View for College Students* (Doubleday, Page and Company, New York, 1926), pp. 229-239.

Periodical

- *CHAMBERLIN, T. C.—"The Method of Multiple Working Hypotheses," *Science*, Vol. XV (Feb. 7, 1890), pp. 92-96.

CHAPTER X. CIRCUMSTANTIAL EVIDENCE AND PROOF
OF HYPOTHESES

See bibliography for Chapter IV.

CHAPTER XI. ORAL TESTIMONY

Books

- GROSS, HANS.—*Criminal Psychology* (Little Brown and Company, Boston, 1911).
- LEWIS, George Cornewall.—*An Essay on the Influence of Authority in Matters of Opinion*, 2nd ed. (Longmans, Green and Company, London, 1875).
- MONTAGUE, William Pepperell.—*The Ways of Knowing* (The Macmillan Company, New York, 1925), Chap. I.
- *WELLMAN, Francis L.—*The Art of Cross Examination* (The Macmillan Company, New York, 1925).
- *Gentlemen of the Jury* (The Macmillan Company, New York, 1924), Chap. III.

Periodicals

- ANDERSON, Paul Y.—"The Sinclair Jury Explains," *Nation*, Vol. CXXVI (May 9, 1928), pp. 535-536.

CHASE, Stuart.—"Blindfolded You Know the Difference," *New Republic*, Vol. LV (Aug. 8, 1928), pp. 296-298.

Supreme Court decision, written by Mr. Justice Brandeis, "The Third Degree," *New Republic*, Vol. XL (Nov. 12, 1924), pp. 272-274.

*WHIPPLE, Guy Montrose.—"The Obtaining of Information: Psychology of Observation and Report," *Psychological Bulletin*, Vol. XV (July, 1918), pp. 217-248.

Editorials

"The Sacco-Vanzetti Case," *New Republic*, Vol. XLVII (June 9, 1926), pp. 75-77.

"Government by Publicity," *New Republic*, Vol. XLVIII (Sept. 22, 1926), pp. 110-111.

"Spokesman, What of the Night?" *Nation*, Vol. CXXIII (Sept. 29, 1926), pp. 286-287.

"The Case of Will Hays," *Nation*, Vol. CXXVI (March 14, 1928), p. 284.

CHAPTER XII. WRITTEN SOURCES

Books

ANGELL, Norman.—*The Press and the Organization of Society* (The Labour Publishing Company, Ltd., London, 1922).

*BAKER-CROTHERS, Hayes, and HUDNUT, Ruth Allison.—*Problems of Citizenship* (Henry Holt and Company, New York, 1924), Chaps. II-III.

Chicago Commission on Race Relations.—*The Negro in Chicago* (The University of Chicago Press, Chicago, 1922), Chap. X.

*Columbia Associates in Philosophy.—*An Introduction to Reflective Thinking* (Houghton Mifflin Company, Boston, 1923), Chap. VIII.

LIPPMANN, Walter.—*Liberty and the News* (The Macmillan Company, New York, 1927).

*——— *Public Opinion* (The Macmillan Company, New York, 1927), Part VII.

OLDER, Fremont.—*My Own Story* (The Macmillan Company, New York, 1926).

PIERREFEU, Jean de.—*G. Q. G., Secteur I, Trois Ans au Grand Quartier Général*, 2 tomes (Paris, L'Édition française illustrée, 1920).

ROSS, Edward Alsworth.—*Changing America* (The Century Company, New York, 1912), Chap. VII.

*SINCLAIR, Upton.—*The Brass Check, A Study of American Journalism* (The Author, Pasadena, 1920).

- VILLARD, Oswald Garrison.—*Some Newspapers and Newspaper Men* (Alfred A. Knopf, New York, 1926).
- VINCENT, John Martin.—*Historical Research* (Henry Holt and Company, New York, 1911).
- WALTER, Frank K.—*Periodicals for the Small Library*, 5th ed. (American Library Association, Chicago, 1928).

Periodicals

- Anonymous.—"I Was an Interviewer," *New Republic*, Vol. LVI (Aug. 22, 1928), pp. 12-14.
- *ANGELL, Norman.—"The Commercialization of Demagoguery," *Nation and the Athenæum*, Vol. XXXIV (Oct. 20, 1923), pp. 113-114; (Nov. 3, 1923), pp. 180-182.
- BEALS, Carleton.—"The Meaning of the Hearst Documents," *New Republic*, Vol. LIII (Jan. 18, 1928), pp. 243-244.
- BLIVEN, Bruce.—"Newspaper Morals," *New Republic*, Vol. XXXV (May 30, 1923), pp. 17-19.
- "The Great Sugar Mystery," *New Republic*, Vol. XXXIV (April 18, 1923), pp. 205-206.
- BOIE, Maurine.—"An Analysis of Negro Crime Statistics for Minneapolis for 1923, 1924 and 1925," *Opportunity*, Vol. VI (June, 1928), pp. 171-173.
- BROUN, Heywood.—"It Seems to Heywood Broun," *Nation*, Vol. CXXVI (April 11, 1928), pp. 399-400.
- *DAVIS, Jerome.—"Finding the Truth on Current Issues," *Social Forces*, Vol. IV (June, 1926), pp. 729-736.
- GHEENT, W. J.—"False Testers of the News," *Weekly Review*, Vol. IV (May 21, 1921), pp. 488-489; (May 28, 1921), pp. 509-511.
- JACKSON, Gardner.—"President Lowell and the Sacco Alibi," *Nation*, Vol. CXXVIII (April 3, 1929), pp. 395-397.
- LIPPMANN, Walter, and MERZ, Charles, prepared with the assistance of LIPPMANN, Faye.—"A Test of the News," *New Republic*, Vol. XXIII (Aug. 4, 1920), No. 296, Part II.
- LLOYD, Alfred H.—"Newspaper Conscience—A Study in Half-Truths," *American Journal of Sociology*, Vol. XXVII (September, 1921), pp. 197-210.
- POLING, Daniel A.—"Still Silent on the Twelve Hour Day," *New Republic*, Vol. XXV (Dec. 29, 1920), pp. 133-134.
- VILLARD, Oswald Garrison.—"Our American Press—The Bright Side," *World Tomorrow*, Vol. XI (April, 1928), pp. 154-157.

Editorials

- "The Greatest Newspaper in the World," *Nation*, Vol. CXXIII (Sept. 29, 1926), p. 287.

"The Forgery as to the *Nation*," *Nation*, Vol. CXXV (Dec. 21, 1927), p. 699.

"The Sewer System of American Journalism," *Nation*, Vol. CXXV (Dec. 28, 1927), p. 724.

CHAPTER XIII. DISHONEST PROPAGANDA

GENERAL PROPAGANDA

Books

GRAVES, W. Brooke.—*Readings in Public Opinion* (D. Appleton and Company, New York, 1928).

LAIDLER, Harry W., and THOMAS, Norman, ed.—*New Tactics in Social Conflict* (Vanguard Press, New York, 1926), COLEMAN, McAlister, "The New Propaganda," pp. 218-224.

*LIPPMANN, Walter.—*Liberty and the News* (The Macmillan Company, New York, 1927).

*LUMLEY, Frederick Elmore.—*Means of Social Control* (The Century Company, New York, 1925), Chap. VIII.

*PONSONBY, Arthur A. W. H.—*Falsehood in Wartime* (E. P. Dutton and Company, New York, 1929).

*RUSSELL, Bertrand.—*Free Thought and Official Propaganda* (The Viking Press, New York, 1922).

STEWART, Charles Gideon.—*A Study of Propaganda as a Social Factor* (A thesis presented in manuscript for the degree of Master of Arts, Ohio State University, 1924).

Periodicals

CRANE, Frank.—"Propaganda Overdone," *Current Opinion*, Vol. LXIX (November, 1920), pp. 609-610.

HEARNshaw, F. J. C.—"History as a Means of Propaganda," *Fortnightly Review*, Vol. CXX (August, 1923), pp. 321-331.

*HANNA, Paul.—"When Radicals Do It," *World Tomorrow*, Vol. VI (June, 1923), pp. 183-184.

*LOVETT, Robert Morss.—"The Pitfalls of Propaganda," *World Tomorrow*, Vol. VI (June, 1923), pp. 167-169.

REPLIER, Agnes.—"A Good Word Gone Wrong," *Independent*, Vol. CVII (Oct. 1, 1921), p. 5.

STRONG, Edward K., Jr.—"Control of Propaganda as a Psychological Problem," *Scientific Monthly*, Vol. XIV (March, 1922), pp. 234-252.

Editorial

"Propaganda," *Nation*, Vol. CVI (June 1, 1918), p. 642.

PROPAGANDA IN NEWSPAPERS AND MAGAZINES

Books

- *ANGELL, Norman.—*The Press and the Organization of Society* (The Labour Publishing Company, Ltd., London, 1922), Chaps. I-IV.
- ROSS, Edward Alsworth.—*Changing America* (The Century Company, New York, 1912), Chap. VII.
- *SINCLAIR, Upton.—*The Brass Check, A Study of American Journalism* (The Author, Pasadena, 1920).

Periodicals

- BENT, Silas.—"Partisanship in the Press," *New Republic*, Vol. LVI (Sept. 19, 1928), pp. 116-118.
- *BLIVEN, Bruce.—"Newspaper Morals," *New Republic*, Vol. XXXV (May 30, 1923), pp. 17-19.
- "Our Changing Journalism," *Atlantic Monthly*, Vol. CXXXII (December, 1923), pp. 743-750.
- BROWN, Roscoe C. E.—"A Comment," *North American Review*, Vol. CCV (February, 1922), pp. 197-199.
- BROWNELL, Atherton.—"Publicity—And Its Ethics," *North American Review*, Vol. CCXV (February, 1922), pp. 188-196.
- CLARK, Carroll D.—"The Small Town Press Sells Out," *New Republic*, Vol. XLV (Jan. 20, 1926), pp. 236-239.
- *COBB, Frank L.—"The Press and Public Opinion," *New Republic*, Vol. XXI (Dec. 31, 1919), pp. 144-147.
- DREXEL, Constance.—"The Foreign Correspondent," *New Republic*, Vol. XXXVII (Jan. 30, 1924), pp. 252-254.
- GRIFFIN, Bulkley Southworth.—"The Public Man and the Newspapers," *Nation*, Vol. CXX (June 17, 1925), pp. 689-690.
- HARTMAN, Charles L.—"Die Russischen Archive und die Farnzösische Press," *Deutsche Rundschau*, Vol. CXCIX (April, 1924), pp. 1-13.
- "Die Russischen Archive und der Weltkrieg," *Deutsche Rundschau*, Vol. CXCIX (June, 1924), pp. 225-240.
- IRWIN, Will.—"The American Newspaper," *Colliers*, Vol. XLVI (1911), Jan. 21, pp. 15-18; Feb. 4, pp. 14-17; Feb. 18, pp. 14-17; March 4, pp. 18-20; March 18, pp. 16-18; Vol. XLVII (1911), April 1, pp. 18-19; April 22, pp. 21-22; May 6, pp. 17-19; *May 27, pp. 15-16; *June 3, pp. 17-19; June 17, pp. 17-18; *July 1, pp. 17-18; *July 8, pp. 15-16; July 22, p. 13; *July 29, pp. 15-16.
- "If You See It in the Papers, It's——?" *Colliers*, Vol. LXXII (Aug. 18, 1923), pp. 11-12.
- "You Have a Sixth Sense for Truth," *Colliers*, Vol. LXXII (Aug. 25, 1923), pp. 13-14.

- KEARNEY, Paul W.—"First to Last—The Truth," *Nation*, Vol. CXX (Jan. 7, 1925), p. 17.
- KITTLE, William.—"Newsbureaus and Newspapers," *La Follette's Magazine*, Vol. I (July 10, 1909), pp. 7-9.
- RATHOM, John R.—"The Confession of John R. Rathom," *Nation*, Vol. CXI (Nov. 17, 1919), pp. 557-559.
- TENNEY, Alvan A.—"Scientific Analysis of the Press," *Independent*, Vol. LXXIII (Oct. 17, 1912), pp. 895-898.
- WILCOX, Delos F.—"The American Newspaper: A Study in Social Psychology," *Annals of the American Academy*, Vol. XVI (1900), pp. 56-92.

Editorials

- "Impropaganda," *Freeman*, Vol. VI (Jan. 3, 1923), pp. 389-390.
- "Our Unpurchasable Press," *Nation*, Vol. CX (May 29, 1920), p. 709, and (June 26, 1920), p. 841.
- "More News from Russia," *New Republic*, Vol. XXV (Dec. 8, 1920), pp. 30-33.
- "Publicity without Candor," *New Republic*, Vol. XXIX (Dec. 7, 1921), pp. 29-31.
- "Syndicated Venality," *New Republic*, Vol. XLIV (Oct. 7, 1925), pp. 165-166.

THE ASSOCIATED PRESS

Book

- *SINCLAIR, Upton.—*The Brass Check, A Study of American Journalism* (The Author, Pasadena, 1920), Chaps. XXVII, XXVIII, XLII, LII, LVII, LVIII.

Periodicals

- IRWIN, Will.—"What's Wrong with the Associated Press?" *Harper's Weekly*, Vol. LVIII (March 28, 1914), pp. 10-12.
- KENNAN, George.—"The Associated Press—A Defense," *Outlook*, Vol. CVII (May 30, 1914), p. 240+.
- KITTLE, William.—"The Associated Press," *La Follette's Magazine*, Vol. I, No. 26, (July 3, 1909), pp. 6-9.
- MASON, Gregory.—"The Associated Press—A Criticism," *Outlook*, Vol. CVII (May 30, 1914), pp. 237-240.
- NOYES, Frank B.—"The Associated Press," *North American Review*, Vol. CXCVII (May, 1913), pp. 701-710.
- President of the Associated Press, Statement of, 62nd Congress, 1st Session, 1911, Senate Documents, Vol. 6, *Reciprocity with Canada*, Hearings, Vol. 2 (Serial Number 6084), pp. 1215-1221.

- Observer, An.—"The Problem of the Associated Press," *Atlantic Monthly*, Vol. CXIV (July, 1914), pp. 132-137.
- *OWENS, Dewey M.—"The Associated Press," *American Mercury*, Vol. X (April, 1927), pp. 385-393.
- RIDDER, Herman, Publisher *New York Staats Zeitung*, Statement of, *Reciprocity with Canada*, Vol. 2, pp. 1222-1321.
- STONE, Melville E.—"The Associated Press," *Colliers*, Vol. LIII (July 11, 1914), pp. 28-29.
- Manager and Secretary of the Associated Press, Statement of, *Reciprocity with Canada*, Hearings, Vol. 2 (Serial Number 6084), pp. 1350-1365.

Editorials

- "The Associated Press," *Nation*, Vol. XCVIII (March 12, 1914), pp. 256-257.
- "The Associated Press and Fake Journalism," *Outlook*, Vol. CII, (Oct. 19, 1912), pp. 328-329.
- "The Associated Press under Fire," *Outlook*, Vol. CVI (Feb. 28, 1914), pp. 426*-427*.
- "The Sun's Complaint," *Outlook*, Vol. CVI (Feb. 28, 1914), p. 427*.
- "The Associated Press," *Outlook*, Vol. CVII (July 18, 1914), pp. 631-632.

ECONOMIC INTERESTS

Books and Pamphlets

- BIGELOW, E. Victor.—*Mistakes of the Interchurch Steel Report* (Circulated by the United States Steel Corporation, 1921?).
- CHASE, Stuart, and SCHINK, F. J.—*Your Money's Worth: A Study in the Waste of the Consumer's Dollar* (The Macmillan Company, New York, 1927).
- DAWLEY, Thomas Robinson, Jr.—*The Child That Toileth Not* (Gracia Publishing Company, New York, 1912).
- DILLON, E. J.—*Mexico on the Verge* (George H. Doran Company, New York, 1921), Chap. VI.
- EMERY, James A.—*An Examination of the Proposed Twentieth Amendment to the Constitution of the United States* (National Association of Manufacturers of the United States of America, New York, 1924).
- HOWARD, Sidney C., with the collaboration of DUNN, Robert.—*The Labor Spy* (Republic Publishing Company, New York, 1924).
- *Interchurch World Movement.—*Public Opinion and the Steel Strike; Supplementary Reports of the Investigators to the Commission of Inquiry*, 2 vols. (Harcourt, Brace and Company, New York, 1921). LITTELL, Robert, "Under-Cover Men," Vol. II, pp. 1-85; WISEHART, M. K., "The Pittsburgh Newspapers and the Steel Strike," Vol. II, pp. 87-162.

- PARK, Robert E.—*The Immigrant Press and Its Control* (Harper and Brothers, New York, 1922), Chaps. XV and XVI.
- Sixty-sixth Congress, 1st Session, 1919, Senate Document, No. 62, *Brewing and Liquor Interests and German and Bolshevik Propaganda*. Report and Hearings of the Subcommittee on the Judiciary, United States Senate, 3 vols. (Washington, Government Printing Office, 1919).

Periodicals

- ANDERSON, Paul Y.—"The Noble Paper and Power Trust," *Nation*, Vol. CXXVIII (May 15, 1929), p. 583.
- Anonymous—"The Confessions of a Shirt-Stuffer," *New Republic*, Vol. XLVI (March 3, 1926), pp. 35-38.
- BLACKWELL, Alice Stone—"Massachusetts—'No,'" *Woman Citizen*, Vol. IX (Nov. 29, 1924), pp. 14-15.
- BURNETT, Verne Edwin—"How Workers React to Propaganda," *Industrial Management*, Vol. LXV (April, 1923), pp. 250-253.
- CATT, Carrie Chapman—"Poison Propaganda," *Woman Citizen*, Vol. VIII (May 31, 1924), p. 14.
- CHASE, Stuart—"Averting Calamity," *Nation*, Vol. CXXIV (Feb. 16, 1927), p. 168.
- *CHASE, Stuart, and SCHLINK, F. J.—"Consumers in Wonderland," *New Republic*, Vol. XLIX (1927), Feb. 2, pp. 293-297; Feb. 9, pp. 320-323; Feb. 16, pp. 348-351; Vol. L (1927), Feb. 23, pp. 12-15; March 2, pp. 38-41.
- *CLINE, Leonard Lanson—"The Hypnotizing of Winnie Kluth," *New Republic*, Vol. XXXVIII (April 30, 1924), pp. 257-259.
- DAVIS, Jerome—"Boosting the Dollar," *World Tomorrow*, Vol. VI (June, 1923), pp. 175-177.
- DRIFTER, The—"Standard Oil Company's Headline Propaganda," *Nation*, Vol. CXII (March 2, 1921), p. 340.
- DUNNING, E. B.—"How Things Are Done," *Insurance Field*, Vol. XLVIII, No. 7A-3 (Aug. 24, 1923), p. 37. Reprinted also in the *Minnesota Daily Star*, Oct. 4, 1923.
- FINNEY, Ross L.—"What Is Behind Child Labor Opposition?" *Christian Century*, Vol. XLII (Jan. 15, 1925), pp. 88-90.
- *FLEXNER, Jean Atherton—"Selling the Company," *New Republic*, Vol. XXXVIII (April 9, 1924), pp. 171-174.
- LAIDLER, Harry W.—"Sir Adam Beck Replies to Wyer Report Attack," *League for Industrial Democracy News-Bulletin*, Vol. III (May, 1925), pp. 11-12.
- LOOMIS, John—"Who Owns the Daily Press?" *Nation*, Vol. CXXVIII (April 17, 1929), pp. 446-448.
- SPRAGUE, Jesse Rainsford—"Patronize Your Own Church People," *New Republic*, Vol. XXXVII (Jan. 30, 1924), pp. 254-256.

Editorials

- "Government by Propaganda!" *Printers Ink*, Vol. CXXVI (Jan. 17, 1924), pp. 111-112+.
- "The Press Weds the Paper Trust," *Nation*, Vol. CXXVIII (May 1, 1929), p. 128.
- "Who Should Own Newspapers?" *New Republic*, Vol. LVIII (May 15, 1929), pp. 334-345.

POLITICS

Book

- *CREEL, George.—*How We Advertised America* (Harper and Brothers, New York, 1920), Chaps. III and IV.

Periodical

- LA GUARDIA, F. H.—"Lobbying in Washington," *Nation*, Vol. CXXVI (May 23, 1928), p. 586.

Editorial

- *"The Boston Police Strike Tragedy," *Searchlight on Congress*, Vol. X (September-October, 1924), pp. 9-17.

SCHOOLS AND EDUCATION

Books

- FLANDERS, Jesse Knowlton.—*Legislative Control of the Elementary Curriculum* (Teachers College, New York, 1925).
- SINCLAIR, Upton.—*The Goose Step, A Study of American Education* (The Author, Pasadena, 1923).
- *The Goslings, A Study of the American Schools* (The Author, Pasadena, 1924).

Periodicals

- BEARD, Charles A.—"Propaganda in Schools," *Dial*, Vol. LXVI (June 14, 1919), pp. 598-599.
- BROCK, H. I.—"The Great Fairy Tale Propaganda," *New York Times Magazine* (March 23, 1924), p. 8+.
- CASHMAN, John E.—"The Speech of Honorable John E. Cashman on Bill No. 108 S. Prohibiting the Use of Public School Text-books Containing Propaganda Favorable to Any Foreign Government," *Wisconsin Magazine of History*, Vol. VI (June, 1923), pp. 444-449.

- LOVETT, Robert Morss.—"McAndrew Follows Scopes," *New Republic*, Vol. LII (Oct. 20, 1927), pp. 256-258.
- OHLINGER, Gustavus.—"Prussianizing American Schools," *Bookman*, Vol. XLVIII (December, 1918), pp. 415-422.
- RODKEY, F. S.—"Militaristic Textbooks," *New Republic*, Vol. XXXIII (Feb. 14, 1923), p. 323.
- SCHAFER, Joseph.—"Popular Censorship of History Texts," *Wisconsin Magazine of History*, Vol. VI (June, 1923), pp. 450-461.

Editorials

- "Whoso Shall Offend," *Nation*, Vol. CVIII (Jan. 25, 1919), p. 113.
- "Poisoning the Wells," *Nation*, Vol. CVIII (March 8, 1919), p. 340.
- *"The Subversion of Public Education," *New Republic*, Vol. XXIX (Feb. 1, 1922), pp. 259-262.
- "The Things That Are Abiding," *Freeman*, Vol. IV (Feb. 15, 1922), pp. 532-533.
- *"Poisoning the Pierian Spring," *New Republic*, Vol. XLVIII (Sept. 15, 1926), pp. 86-87.
- "Poison in the Melting Pot," *New Republic*, Vol. LIV (March 21, 1928), pp. 137-138.
- "The Million Dollar Lobby," *Nation*, Vol. CXXVI (May 16, 1928), pp. 554-555.

RELIGION AND MORALS

Periodicals

- DAVIS, Elmer.—"Dr. Manning's Pious Anachronism," *New Republic*, Vol. XLI (Jan. 28, 1925), pp. 256-257.
- WEATHERLY, Arthur L.—"The Real Issue," *Unity*, Vol. XC (Feb. 8, 1923), pp. 326-327.

Editorials

- "Censorship," *Nation*, Vol. CXVI (May 2, 1923), p. 508.
- "The Religious Bandwagon," *New Republic*, Vol. XLII (Feb. 25, 1925), pp. 4-5.

GOVERNMENT

Book

- CHAFEE, Zechariah, Jr.—*Freedom of Speech* (Harcourt, Brace and Howe, New York, 1920).

Periodicals

- BAILEY, Herbert.—"British Newspapers and Foreign Propaganda," *Living Age*, Vol. CCCXI (Nov. 26, 1921), pp. 548-551. Quoted from *Westminster Gazette*.
- DEWEY, John.—"Highly Colored White Lies," *New Republic*, Vol. XLII (April 22, 1925), pp. 229-230.
- ENGELBRECHT, H. C.—"How War Propaganda Won," *World Tomorrow*, Vol. X (April, 1927), pp. 159-162.
- GARDNER, Gilson.—"How the Government Misinforms," *World Tomorrow*, Vol. VI (June, 1923), pp. 169-172.
- *IRWIN, Will.—"Patriotism That Pays," *Nation*, Vol. CXIX (Nov. 12, 1924), pp. 513-516.
- *LIBBY, Frederick J.—"Selling' Us Another War," *Nation*, Vol. CXVII (Sept. 23, 1923), pp. 315-317.
- T. R. B.—"Washington Notes," *New Republic*, Vol. XLIII (Aug. 12, 1925), p. 319.

Editorials

- "Government and Propaganda," *Nation*, Vol. CVIII (March 1, 1919), p. 313.
- "Safeguarding Our Minds," *Nation*, Vol. CVII (Dec. 28, 1918), p. 795.
- "More Palmer Propaganda," *Nation*, Vol. CX (March 6, 1920), p. 299.
- "Fooling the Americans Again," *Nation*, Vol. CXV (Dec. 20, 1922), p. 680.
- "Manufactured News," *Nation*, Vol. CXXIII (Dec. 15, 1926), p. 629.

FRANCE AND RUSSIA

Books

- BAUSMAN, Frederick.—*Let France Explain* (George Allen and Unwin, Ltd., London, 1922).
- PIERREFEU, Jean de—*G. Q. G., Secteur I, Trois Ans au Grand Quartier Général*, 2 tomes (Paris, L'Edition française illustrée, 1920), especially Vol. I, Chaps. III and V.
- VON ROMBERG, G., ed.—*Falsifications of the Russian Orange Book* (The Viking Press, New York, 1923).
- Un Livre Noir, Diplomatie d'avant-guerre d'après les documents des archives russes—Novembre 1910 Juillet 1914*—Préface par René Marchand, 2 tomes (Librairie du Travail, Quai de Jemmapes, 96, Paris, 1922).

Periodicals

- *GANNETT, Lewis S.—“How the Russians Lied,” *Nation*, Vol. CXV (Dec. 20, 1922), pp. 693-694.
- *———“The Secret Corruption of the French Press,” *Nation*, Vol. CXVIII (Feb. 6, 1924), pp. 136-138.
- *———“How Poincaré Prepared for War,” *Nation*, Vol. CXVIII (Feb. 20, 1924), pp. 197-198.
- HARTMAN, Charles L.—“Die Russischen Archive und die Französische Press,” *Deutsche Rundschau*, Vol. CXCIX (April, 1924), pp. 1-13.
- “Die Russischen Archive und der Weltkrieg,” *Deutsche Rundschau*, Vol. CXCIX (June, 1924), pp. 225-240.
- “Die Russischen Archive und die Kriegsvorbereitung,” *Deutsche Rundschau*, Vol. CC (July, 1924), pp. 1-17.
- “Die Russischen Archive und der Kriegsausbruch,” *Deutsche Rundschau*, Vol. CC (August, 1924), pp. 113-134.
- L. B.—“La Propagande—Son But—Ses Moyens—Ses Hommes,” *La Revue de Paris*, Vol. XXVI, Part III (Mai-Juin, 1919), pp. 199-224.
- *PIERREFEU, Jean de.—“Building the National Lie,” *Nation*, Vol. CXVIII (Jan. 9, 1924), pp. 28-30.

Editorials

- “Documents in Diplomatic Deceit,” *Nation*, Vol. CXV (Oct. 11, 1922), pp. 362-372.
- “A Chapter in Propaganda,” *Living Age*, Vol. CCCXX (Jan. 26, 1924), pp. 151-156. Quoted from *L'Humanité*.
- “Bribing the French Press,” *New Republic*, Vol. XXXVII (Feb. 6, 1924), pp. 273-274.
- “‘Le Matin’ versus ‘L'Humanité,’” *Living Age*, Vol. CCCXXI (June 21, 1924), pp. 1167-1168.

GERMANY

Book

- PARK, Robert E.—*The Immigrant Press and Its Control* (Harper and Brothers, New York, 1922), Chap. XVII.

Periodicals

- GILLET, Louis.—“Le Bureau Allemand de la Presse,” *Revue de Deux Mondes*, 6 per 57 (Mai, 1920), pp. 205-216.
- GIRAUD, Victor.—“Plaidoyers Allemands,” *Revue de Deux Mondes*, 6 per 46 (15 Août, 1918), pp. 888-899.

- GOT, Ambroise.—“La Littérature Pangermaniste d'Après-guerre,” *Mercure de France*, tome 167 (15 Octobre, 1923), pp. 403-421.
- KOCH, Theodore Wesley, “British Censorship and Enemy Publications,” *Library Journal*, Vol. XLII (September, 1917), pp. 697-705.
- LECHARTIER, Georges.—“Les Intrigues Allemands aux Etats Unis,” *Revue de Deux Mondes*, 6 per 45 (15 Juin, 1918), pp. 895-934.
- THEBAULT, Eugène.—“La Gazette Infâme,” *Revue de Deux Mondes*, 6 per 47 (Octobre, 1918), pp. 514-548.
- VON SCHIERBRAND, Wolf.—“Trailing the German Reptile Fund,” *Current Opinion*, Vol. LXVI (April, 1919), pp. 220-222.

Editorials

- “The Kaiser’s Plotters in Spain,” *Current History*, Vol. X, Part II (July, September, 1919), pp. 154-155.
- “Sinn Fein, Labour and Germany,” *Spectator*, Vol. CXXII (June 7, 1919), pp. 721-723.

SOVIET RUSSIA

Book

- *ROSS, Edward Alsworth.—*The Russian Soviet Republic* (The Century Company, New York, 1923), Chaps. IV, IX, XXIII.

Periodicals

- COLVIN, Ian D.—“The Gentle Art of Propaganda,” *Living Age*, Vol. CCCXVII (April 21, 1923), pp. 149-155. Quoted from *National Review*.
- MAXE, Jean.—“La Propagande Bolchevique Mondiale,” *Mercure de France*, tome 145 (Janvier, 1921), pp. 88-121.

GREAT BRITAIN

Books

- GIBBS, Phillip.—*Now It Can Be Told* (Harper and Brothers, New York, 1920).
- *MITCHELL, Peter Chalmers.—“Propaganda,” *Encyclopedia Britannica*, 11th ed., Vol. XXII, pp. 176-185.
- *STUART, Sir Campbell.—*Secrets of Crewe House* (Hodder and Stoughton, London, 1920).

Periodicals

- BLANKENHORN, Heber.—“The Latest Horrors of War,” *Nation*, Vol. CXI (Nov. 24, 1920), pp. 594-595.

- *PARKER, Sir Gilbert.—"The United States and the War," *Harper's Magazine*, Vol. CXXXVI (March, 1918), pp. 521-531.
- *THOMSON, Basil.—"Does International Propaganda Pay?" *Current Opinion*, Vol. LXXIII (July, 1922), pp. 36-39.

Editorials

- Nation*, Vol. CXXI (1925), Oct. 28, p. 475; Nov. 4, pp. 502-503.
- "General Charteris Falsifies Again," *Nation*, Vol. CXXI (Nov. 18, 1925), p. 563.

UNITED STATES

Books

- CREEL, George.—*How We Advertised America* (Harper and Brothers, New York, 1920).
- WHITEHOUSE, Vira B.—*A Year as a Government Agent* (Harper and Brothers, New York, 1920).

Periodicals

- *BLANKENHORN, Heber.—"The War of Morale," *Harper's Magazine*, Vol. CXXXIX (September, 1919), pp. 510-524.
- CREEL, George.—"Public Opinion in War Time," *Annals of the American Academy of Political and Social Science*, Vol. LXXVIII (July, 1918), pp. 185-194.
- DRIFTER, The.—"Sermon on the Mount as Propaganda," *Nation*, Vol. CXII (March 2, 1921), p. 340.
- MORAN, Thomas F., "The Fight for Public Opinion," *Proceedings of the Historical Association of the Mississippi Valley*, Vol. IX, Part III (1917-1918), pp. 454-475.

Editorial

- "Freckled Boys," *Nation*, Vol. CXXI (July 8, 1925), p. 60.

POST-WAR PROPAGANDA IN EASTERN EUROPE

Editorials

- DERI, Emery.—"Rumanian Riots—Made to Order," *Nation*, Vol. CXXXVI (Feb. 15, 1928), pp. 194-196.
- "Hungary's Intrigues," *Nation*, Vol. CXI (Nov. 17, 1920), pp. 571-576.
- "Propaganda in the Balkans," *Living Age*, Vol. CCCI (May 31, 1919), pp. 539-541. Quoted from *Punch*.

ANTI-BOLSHEVIK PROPAGANDA

Books

*HAPGOOD, Norman, ed.—*Professional Patriots*, material collected by Sidney Howard and John Hearley (Albert and Charles Boni, New York, 1927).

Revolutionary Radicalism, Its History, Purpose and Tactics with an Exposition and Discussion of the Steps Being Taken and Required to Curb It. Being the Report of the Joint Legislative Committee Investigating Seditious Activities, Filed April 24, 1920, in the Senate of the State of New York. 4 vols. (J. B. Lyon Company, Albany, 1920).

Periodicals

CATT, Carrie Chapman.—“Lies-at-Large,” *Woman Citizen*, Vol. XII n.s. (June, 1927), pp. 10-11+.

———“An Open Letter to the D.A.R.,” *Woman Citizen*, Vol. XII n.s. (July, 1927), pp. 10-12+.

*CLINE, Leonard.—“The War on the Peace Seekers,” *New Republic*, Vol. XXXIX (1924), July 2, pp. 149-150; July 9, pp. 184-185.

*HOWARD, Sidney.—“Our Professional Patriots,” *New Republic*, Vol. XXXIX (Aug. 20, 1924), pp. 346-352; Vol. XL (1924), Sept. 3, pp. 12-16; Sept. 10, pp. 37-41; Sept. 17, pp. 71-75; Sept. 24, pp. 93-95; Oct. 1, pp. 119-123; Oct. 8, pp. 143-145; Oct. 15, pp. 171-173.

LEGENDARIAN.—“A Legend Launched,” *Nation*, Vol. CVIII (May 31, 1919), p. 870.

S. M.—“Russia and the American Press,” *Dial*, Vol. LXV (Dec. 14, 1918), pp. 529-530.

Editorials

“More ‘Truth’ About Russia,” *Nation*, Vol. CVII (Dec. 28, 1918), pp. 794-795.

“Propaganda Isn’t Tired,” *Nation*, Vol. CXI (Sept. 4, 1920), pp. 262-263.

THE BOK PLAN

“Bok Peace Award,” *Americana Annual* (Encyclopedia Americana, New York, 1924).

Editorials

“Bok—Peace or Propaganda,” *Nation*, Vol. CXVIII (Jan. 2, 1924), p. 5.

“The Great Bok Humbug,” *Nation*, Vol. CXVIII (Jan. 16, 1924), p. 50.

"The Bok Plan—Education or Propaganda?" *New Republic*, Vol. XXXVII (Jan. 23, 1924), pp. 218-219.

WHITE, William Allen, "A Protest from Emporia," *Nation*, Vol. CXVIII (Feb. 13, 1924), p. 165.

ANTI-JEWISH PROPAGANDA

Books

*BERNSTEIN, Herman, *The History of a Lie* (J. S. Ogilvie Publishing Company, New York, 1921).

SPARGO, John.—*The Jew and American Ideals* (Harper and Brothers, New York, 1921).

The International Jew: The World's Foremost Problem, Being a Reprint of a Series of Articles Appearing in the Dearborn Independent from May 22 to Oct. 2, 1920, 4 vols. (Dearborn Publishing Company, Dearborn, Michigan, 1921-1922).

ANTI-MEXICAN PROPAGANDA

Periodicals

*MERZ, Charles.—"The Propaganda against Mexico," *World Tomorrow*, Vol. X (April, 1927), pp. 152-155.

ANTI-NEGRO PROPAGANDA IN EUROPE

Periodicals

GANNETT, Lewis S.—"Those Black Troops on the Rhine—and the White," *Nation*, Vol. CXII (May 25, 1921), pp. 733-734.

———"The Horror on the Rhine Again," *Nation*, Vol. CXIII (Sept. 7, 1921), p. 264.

Editorial

"Is the Black Horror on the Rhine Fact or Propaganda?" *Nation*, Vol. CXIII (July 13, 1921), pp. 44-45.

THE IMPROVEMENT OF THE PRESS

Books

*ANGELL, Norman.—*The Press and the Organization of Society* (The Labour Publishing Company, Ltd., London, 1922), Chaps. V-VII.

- FLINT, L. N., *The Conscience of the Newspaper* (D. Appleton and Company, New York, 1925).
- *LIPPMANN, Walter.—*Public Opinion* (The Macmillan Company, New York, 1927), Part VII.

Periodicals

- *DUNLOP, George H.—“A Municipal Newspaper,” *National Municipal Review*, Vol. I (July, 1912), pp. 441-443.
- *IRWIN, Will.—“The Voice of a Generation,” *Colliers*, Vol. XLVII (July 29, 1911), pp. 15-16+.

Editorial

- “A Municipal Newspaper,” *Independent*, Vol. LXXI, Part II (Dec. 14, 1911), pp. 1342-1344.

CHAPTER XII. A COOPERATIVE TECHNIQUE FOR SOLVING SOCIAL PROBLEMS

Books

- *Columbia Associates in Philosophy, *An Introduction to Reflective Thinking* (Houghton Mifflin Company, Boston, 1923), Chaps. IX and XII.
- DEWEY, John.—*How We Think* (D. C. Heath and Company, Boston, 1910).
- *ELLIOTT, Harrison Sacket.—*The Process of Group Thinking* (Inquiry Press, New York, 1928).
- *The Why and How of Group Discussion* (Association Press, New York, 1923).
- LIPPMANN, Walter.—*Public Opinion* (The Macmillan Company, New York, 1927), Chap. XXVII.
- National Conference on the Christian Way of Life, *A Co-operative Technique for Conflict* (Association Press, New York, 1924).
- ROSS, Edward Alsworth.—*Social Psychology* (The Macmillan Company, New York, 1908), Chap. XVIII.
- *SHEFFIELD, A. D.—*Creative Discussion* (The Inquiry, New York, 1926).
- *Joining in Public Discussion* (The Macmillan Company, New York, 1922).

GENERAL REFERENCES ON SCIENTIFIC METHOD

Books

- BACON, Francis.—*Novum Organon*, many editions.
- *Columbia Associates in Philosophy, *An Introduction to Reflective Thinking* (Houghton Mifflin Company, Boston, 1923).
- *CRAMER, Frank.—*The Method of Darwin* (A. C. McClurg and Company, Chicago, 1896).
- DARWIN, Charles.—*The Origin of Species*, many editions.
- DEWEY, John.—*How We Think* (D. C. Heath and Company, Boston, 1910).
- JEVONS, William Stanley.—*The Principles of Science; a Treatise on Logic and Scientific Method* (The Macmillan Company, New York, 1874).
- LIBBY, Walter.—*An Introduction to the History of Science* (Houghton Mifflin Company, Boston, 1917).
- LINDEMAN, Eduard C.—*Social Discovery* (Republic Publishing Company, New York, 1924).
- PEARSON, Karl.—*The Grammar of Science*, several editions.
- *ROBINSON, Daniel Sommer.—*Illustrations of the Methods of Reasoning* (D. Appleton and Company, New York, 1927).
- RICHMOND, Mary E.—*Social Diagnosis* (Russell Sage Foundation, New York, 1917).
- STRONG, Thomas Banks, ed.—*Lectures on the Method of Science* (Clarendon Press, Oxford, 1906).
- *THOMSON, J. Arthur.—*An Introduction to Science* (Henry Holt and Company, New York, 1911).
- WESTAWAY, F. W.—*Scientific Method, Its Philosophy and Its Practice* (Blackie and Son, Ltd., London, 1912).

The studies on the following list contain material useful for examination by the beginner in scientific method. In some cases the reasoning presented is thoroughly scientific, in others it is only apparently scientific. You must therefore be on the alert lest you be deceived by the appearance, without the substance, of scientific method.

Books

- CLARKE, Edwin Leavitt.—*American Men of Letters, Their Nature and Nurture* (Columbia University Press, New York, 1916).
- DUGDALE, Richard L.—*The Jukes, a Study in Crime, Pauperism, Disease and Heredity* (G. P. Putnam's Sons, New York, 1910).

- FRANKFURTER, FELIX.—*The Case of Sacco and Vanzetti* (Little, Brown and Company, Boston, 1927). Given also in the *Atlantic Monthly*, Vol. CXXXIX (March, 1927), pp. 409-432.
- GALTON, FRANCIS.—*Hereditary Genius*, various editions.
- GODDARD, Henry Herbert.—*The Kallikak Family; a Study in the Heredity of Feeble-mindedness* (The Macmillan Company, New York, 1919).
- LANGDON-DAVIES, John.—*The New Age of Faith* (The Viking Press, New York, 1925).
- LEUBA, James H.—*The Belief in God and Immortality, a Psychological, Anthropological and Statistical Study* (Open Court Publishing Company, Chicago, 1916).
- O'SHEA, M. V.—*Tobacco and Mental Efficiency* (The Macmillan Company, New York, 1923).
- POPENOE, Paul and JOHNSON, Roswell Hill.—*Applied Eugenics* (The Macmillan Company, New York, 1920).
- WARD, Lester Frank.—*Applied Sociology* (Ginn and Company, Boston, 1906).
- WIGGAM, Albert.—*The Fruit of the Family Tree* (The Bobbs-Merrill Company, Indianapolis, 1924).
- WOODS, Frederick A.—*Mental and Moral Heredity in Royalty* (Henry Holt and Company, New York, 1906).

Periodicals

- BOND, Horace M.—"What the Army 'Intelligence' Tests Measured," *Opportunity*, Vol. II (July, 1924), pp. 197-202.
- KIRCHWEY, George W.—"Crime Waves and Crime Remedies," *Survey Graphic*, Vol. LV (March 1, 1926), pp. 593-597+.
- LONG, Howard H.—"Race and Mental Tests," *Opportunity*, Vol. I (March, 1923), pp. 22-28.
- MARSHALL, Charles C.—"An Open Letter to the Honorable Alfred E. Smith," *Atlantic Monthly*, Vol. CXXXIX (April, 1927), pp. 540-549.
- RUBINOW, I. M.—"The Revolt of a Middle-Aged Father," *Atlantic Monthly*, Vol. CXXXIX (May, 1927), pp. 593-604.
- SMITH, Alfred E.—"Catholic and Patriot: Governor Smith Replies," *Atlantic Monthly*, Vol. CXXXIX (May, 1927), pp. 721-728.
- STERNBERG, George M.—"The Transmission of Yellow Fever by Mosquitoes," *Popular Science Monthly*, Vol. LIX (July, 1901), pp. 225-241.
- WALLIS, Wilson D.—"Race and Culture," *Scientific Monthly*, Vol. XXIII (October, 1926), pp. 313-321.
- "Vanzetti Was Innocent," a series of articles in the *Outlook and Independent*, Vol. CL (Oct. 31, 1928), pp. 1053-1063+.

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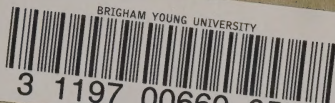
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